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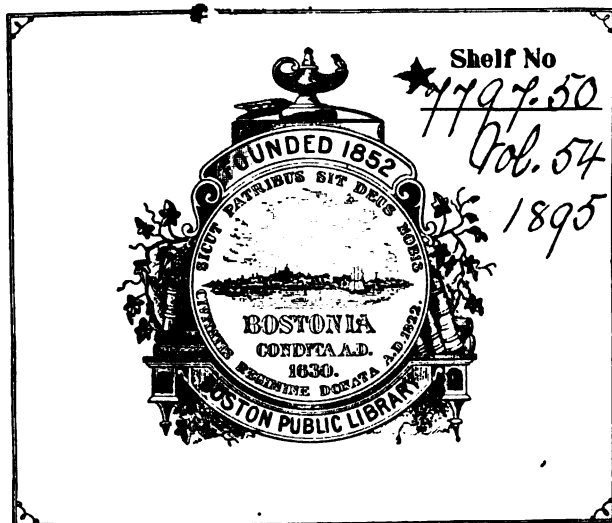
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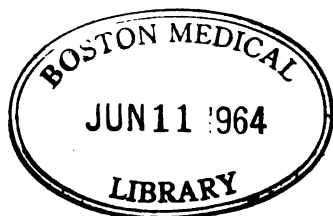
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JANUARY, 1895.

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ON PUERPERAL ALBUMINURIA AND CONVULSIONS.

BY SIR JOHN WILLIAMS, BART., M.D.,

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Obstetric Physician to the Hospital.*

THE discovery of albumen in the urine of pregnant or puerperal women who suffered from convulsions opened up an entirely new field in the pathology of puerperal eclampsia, and led to a large amount of new medical literature. Like many other new discoveries, it led to discussions of a one-sided character, and to extreme views to which Lever's original paper gave no support. One party held that all puerperal convulsions were the result of renal disease; while the other held, on the contrary, that renal disease was not the cause of the convulsive manifestations. To the sweeping statements of the party of renalists, the objections raised by their opponents appear to me to remain unanswered and unanswerable.

Some of these objections which remain unanswered are:—

(1) That convulsions may occur in the absence of albumen in the urine.

(2) That in many fatal cases of puerperal convulsions disease of the kidneys is absent or quite insignificant.

(3) That puerperal convulsions are comparatively rare in persons, the subjects of chronic Bright's disease prior to the occurrence of pregnancy.

These objections are admitted facts, and I think that they disprove the views of Braun and Frerichs.

An attempt has been made to reply to them by stating that albuminuria is not the cause of the convulsions, but renal insufficiency; but this statement is a begging of the whole question at issue, has its basis in the theory in dispute, is not proved, and has little or no evidence in its favour. Indeed, it is disproved by the fact that convulsions occur in puerperal women who never at any time show any signs of renal trouble.

It is generally admitted, however, that many, perhaps most, cases of puerperal convulsions are associated with albuminuria, and that there is some connection between the two; while in other cases they are not thus associated. Lever was aware of this, and pointed it out in his paper. As convulsions occur apart from pregnancy, so they may arise from the same causes during, but independently of, pregnancy; as from cerebral or meningeal disease and other conditions. Moreover, true epilepsy may manifest itself for the first time during pregnancy or the puerperal state, and the subject may become a permanent epileptic. Besides, epileptic attacks may occur once in a lifetime from some accidental peripheral irritant. I once saw a patient who, immediately after taking dinner, had a cold journey of twelve miles by train. On reaching home he had two severe fits of epilepsy, one after the other. He had not had an attack before and he has not had one since, although many years have elapsed. If gastric irritation can give rise to epileptic attacks in a healthy person, we can easily imagine that severe uterine contraction may occasion like attacks in a pregnant woman whose nervous system has undergone the changes, especially increased sensibility, which are so frequently observed during gestation. Such may occur in the absence of albumen in the urine, or albumen may be present in the urine but take no part in the causation of the fits.

We may have, then, during pregnancy, convulsions arising from intracranial disease, true epilepsy manifesting itself for the first time in a tainted subject, and epileptic attacks appearing once only, called forth by the irritation of the over-sensitive nervous system of the puerperal woman by the contraction of the uterus. These last may justly be called puerperal convulsions. With these classes of convulsions I have nothing to do now except to eliminate them from consideration; and I come to consider a more severe and grave form—a form which is sudden in its onset, rapid in its progress, and, generally, fatal in its issue. There is another form which should, I think, be separated from the forms I have eliminated and from the one I am about to consider—that is, that form which is met with occasionally in the subjects of chronic Bright's disease. I believe that this is different from that which is illustrated by the following cases.

A very great majority of cases of puerperal convulsions, however, are associated with albuminuria, and it is of some cases of this kind that I now write. I do not state that in many cases the renal trouble alone fails to explain the convulsions; but I believe that there are some cases in which, although albuminuria in a severe form is present, yet the albuminuria is not the whole of the disease nor the whole of the condition giving rise to the convulsions. It is not my object to explain how renal lesions bring on convulsions, but simply to show that it is, in some cases at least, only a part, and it may be only an inconsiderable part, of the disease present. With this object, I shall relate two cases which have come under my notice—one of which recovered, so that I am not able to give the exact pathological conditions present as found on *post-mortem* examination; while the other died, and I am able to describe the conditions found after death.

The first was the case of a lady whose labour was expected in July, 1880. She was 24 years of age, and pregnant for the first time. She had ceased to menstruate on September 12th, 1879, and had been quite well until March 4th following, when I was asked to see her for a pain in the epigastric region. I was

called to see her at night, and attributed her pain to some indigestible food she had taken. I saw her again on the following morning, and then found that her conjunctivæ were of a yellowish tint. There was also slight flinching on firm percussion over the liver. The liver dulness measured two inches downwards from the upper border of the seventh rib. The uterus reached to a point a little below the umbilicus. There was no œdema of the face, legs, hands, or feet. She was ordered a calomel pill, to be followed by a seidlitz powder. These acted freely. In the evening of the same day her urine was sent up to me, but too late to examine for bile. In the morning I examined it and found it high-coloured and looking as if it contained bile. On boiling I found it contained three-fourths of albumen. It contained bile also, and a few granular casts, amorphous urates and leucin, but no blood corpuscles. On this, the morning of the 6th of March, she became blind; and about 9 o'clock she had a fit. On my arrival shortly afterwards I found her unconscious, breathing heavily, with dusky face and dilated pupils. In about an hour she had a second fit of a typically epileptiform character. An enema of bromide of potash and chloral was administered, and repeated every two hours during the day. Dr. Matthews Duncan saw her with me, and it was agreed to induce labour and give sulphate of soda to act upon the bowels. There was no uterine action, and no indication whatever of the beginning of labour. The patient remained in a half-unconscious state during the remainder of the day. There was no recurrence of the fits. Vaginal douches of hot water were administered, but without exciting any action on the uterus. Towards evening the sight of one eye was restored, but that of the other was not fully restored for some days. On the following morning, no uterine action having been excited, a laminaria tent was introduced into the cervix; in the evening a second; and on the following morning, the 8th, she was delivered of a dead fœtus of about five and a half months' growth. Her temperature during this time varied from 97·6 to 98·4. The pulse was 120 a minute, small and wiry. Afterwards the breathing became quicker—30 to 40, and the pulse 130 to 140 per minute. During the night the

pulse became so small as to be, at times, hardly felt, although the heart acted well. After the birth of the child the albumen fell to one-half, and soon disappeared, and she got rapidly well.

In January, 1881, she became pregnant again. Everything went on well until July. From April 1st the urine was tested twice a week, and nothing abnormal was found in it until the 21st of July, when it first showed a trace of albumen. During the night the patient began to complain of an indescribable pain in the sternum between the mammæ, and occasional dyspnoea and sighing breathing. The pulse was 80 a minute, of good character and fair volume. During the night these symptoms increased in severity. She was restless and slept but little, although she took bromide of potash in considerable doses. On the following morning the pulse was quick, small, hard, and incompressible. The face was somewhat dusky. The urine was high-coloured, somewhat scanty, and contained one-half of albumen. At noon the face, which was usually pale, presented a full, dusky, and bloated appearance. The pulse had risen to 120, was very small and incompressible. The patient suffered great distress, sternal pain, constant sighing, and great restlessness. She was not a moment quiet. At this time the urine contained three-fourths of albumen. Dr. Duncan saw her with me again on this occasion, and it was decided to induce labour without delay. Tents were therefore introduced and chloral administered, and on the following day she was delivered of a six months' foetus. During the 22nd and 23rd—that is, during the day on which and the day after which tents were introduced—the urine deposited a good deal of brown material, and contained four-fifths of albumen. The microscope revealed amorphous urates, triple phosphates, mucus, and a few small hyaline casts, having a few small cells apparently on their surface, but no blood corpuscles could be discovered. After the birth of the child the amount of urine increased. It became paler, and on the 25th, only two days after the uterus was emptied, it presented a natural appearance and contained no trace of albumen.

In 1882, Sir William Jenner saw her with me. She

was, as usual, anæmic. He prescribed iron, and advised the bleeding of her should she become pregnant again. In the following October, 1882, she did become pregnant a third time. From the second month the urine was tested twice a week, and from the beginning of January, 1883, daily until her confinement. During the months of January, February, March, and April the amount of urine passed varied from two and a half to three and a half pints. Its sp. gr. ranged from 1005 to 1020, usually about 1018. It contained no albumen until April 28th, the end of the sixth month, and on this day the presence of albumen was doubtful. During the four days following, one-twelfth of albumen appeared twice in the evening urine. On May the 4th, however, the amount of albumen suddenly increased to one-fourth, and the patient began to complain of distress and sternal pain. Her face became full and assumed a somewhat bloated appearance. She was bled to eight ounces. Relief followed immediately. The distress ceased, the turgescence of the face vanished, and in twenty-four hours the albumen had entirely disappeared from the urine. During the eight days following, a trace of albumen appeared twice or three times; and on the afternoon of the eighth day after the bleeding, she again complained of distress, sternal pain, and the old symptoms. She was now bled to ten ounces with immediate relief. The evening urine contained a trace of albumen. During the following week, there was found from a trace to one-twelfth of albumen in the urine; and on the 19th, seven days after the second bleeding, the patient began to complain of her old symptoms. The pulse was 70 to 80, hard and small. The evening urine contained one-tenth or one-eighth albumen, and had a sp. gr. of 1005. At 11 o'clock at night on the 19th, she was bled to four ounces. No more blood could then be obtained. There was no relief, and at 4 o'clock in the morning she was bled again to eight ounces and given a dose of bromide of potash. This was followed by a refreshing sleep, from which she woke up looking and feeling well. During the day she passed only half a pint of urine. During the night she passed a pint. During the 21st she felt well. The urine of this day was examined by Dr. Ralfe.

ANALYSIS OF URINE,
Monday morning, May 21st.

	In 100 parts.	In 12 hours' urine.
Quantity... ..	100 c.c.	504 c.c.
Reaction... ..	Acid	Acid
Specific gravity (before removal of albumen)	1,021	1,021
Specific gravity (after removal of albumen)	1,016	1,016
Urea	2.75 grms.	13.75 grms.
Phosphoric acid... ..	0.196 "	0.982 "
Albumen*	1.15 "	5.76 "

Remarks.—The amount of albumen passed is considerable, and would, at the rate of excretion, amount to nearly three drachms in twenty-four hours. The specific gravity is rather less than normal, but not to any degree, especially if the patient is not moving about much, and is taking only a moderate amount of solid food in proportion to liquid nourishment. The phosphoric acid is also slightly decreased. The urea is decreased but very slightly, the normal for a full-grown woman being from 28 to 32 grms. in twenty-four hours. In this case it would be 27.5 grms..

On the 22nd the urine passed amounted to two and a half pints, and contained one-tenth of albumen. On the night of the 22nd and 23rd, she complained of the old pain, which was relieved by bromide of potash. The urine passed was two pints and a half, and the sp. gr. was 1018. It contained one-eighth to one-sixth of albumen. The pulse was 68, regular, hard, and full. In the afternoon she complained of occasional pain in the epigastrium, and the face began to appear somewhat bloated and purplish. Her pulse was about 68, regular and hard. The urine contained one-sixth of albumen. She became gradually worse, and at 9 o'clock she was unable to lie down, was very restless, and complained of sternal pain, had a full, bloated face, and a hard, small pulse of 60 a minute. She was bled to eight ounces, with immediate relief. The face assumed a natural appearance, but the sternal pain continued for a short time afterwards. The pulse became soft but quicker—84 a minute. Just before the bleeding, the urine contained one-half of albumen. The urine passed during the twelve hours before,

* The albumen was estimated approximately by multiplying the difference between the specific gravity before and after the removal of albumen, by Trapp's formula and constant.

and that passed during the twelve hours after, the bleeding were analysed by Dr. Ralfe, with the following result:—

ANALYSIS OF URINE,

May 23rd and 24th, 1883.

(a) Urine of the twelve hours immediately preceding bleeding.

	Per cent.	12 hours.
Quantity... ..	100 c.c.	620 c.c.
Reaction... ..	Acid	Acid
Specific gravity (before removal of albumen)	1,018	1,018
Specific gravity (after removal of albumen)	1,014	1,014
Urea	2·3 grms.	14·26 grms.
Albumen*	0·8 "	4·9 "

(b) Urine of the twelve hours immediately after bleeding.

	Per cent.	12 hours.
Quantity... ..	100 c.c.	435 c.c.
Reaction... ..	Acid	Acid
Specific gravity (before removal of albumen)	1,021	1,021
Specific gravity (after removal of albumen)	1,018	1,018
Urea	3·6 grms.	15·66 grms.
Albumen	0·6 "	2·6 "

24th.—The following day she felt well. The pulse was 84, regular and soft. There were no head, ear, or eye symptoms and no œdema. The albumen was much diminished—only one-tenth in the evening—and the urine had a sp. gr. of 1018. In the evening, however, the sternal pain returned. The patient became unable to lie down, very restless, with a full and somewhat livid face, small, hard pulse, 66 a minute. She felt sick. This was the only occasion on which she felt sick. The urine passed at 11 p.m. contained one-third of albumen. Dr. Duncan saw her with me again on this occasion, and it was decided to induce labour.

25th.—At 2 a.m. tents were introduced. Labour set in at

* Albumen calculated by the difference in specific gravity before and after removal of albumen, by Trapp's constant.

8 a.m. The urine then contained one-half of albumen. The evening urine contained one-half of albumen. The amount passed during the day, the 25th, was one pint. Pulse 100-108.

26th.—The urine passed during the night amounted to seven ounces, having a sp. gr. of 1026, acid, and contained more than one-half of albumen, fine hyaline and granular casts, many epithelial cells and pus cells. She was in much the same condition until 2 p.m., when the child was born, and continued much the same during the day. Then six ounces of urine were drawn. At 9 p.m. the pulse was 120, small, soft, and compressible. Eight ounces of urine were drawn by catheter, and it contained one-half of albumen.

27th.—During the night she passed twenty ounces of urine, which contained one-twentieth of albumen. She had still a livid appearance. From this time on, the albumen gradually diminished; but she was a long time in regaining her strength. The highest temperature was 101.6. This was after labour.

She became pregnant once again in August, 1887. The urine was tested twice a week during December, January, and February following. The quantity passed varied from three to three and a half pints, having a sp. gr. of 1018 to 1020. It contained no albumen. From February 24th, the end of the sixth month, she was kept in bed, and the urine was tested twice a day. It contained no albumen until April 22nd, or early in the ninth month of pregnancy. On that day it contained a trace. On the 28th it amounted to one-half, rather less on the 29th and 30th, and on May the 1st she was confined. After this the albumen rose to one-third, but fifteen hours afterwards the urine contained only a trace of albumen.

This case would appear at first sight to be a typical case of puerperal convulsions referable to albuminuria and uræmic poisoning; but I think that, on fuller consideration, it will appear that in the first pregnancy, at least, the condition was not renal simply, and that there was something more than albuminuria; that other organs, especially the liver, took part in the morbid process. The tenderness over the liver region and the presence of bile and leucin in the urine point to the participation of the liver in the trouble. Dr. Matthews Duncan

held the view that this was a case of so-called acute yellow atrophy of the liver in an early stage occurring during pregnancy. I would also call attention to the period of pregnancy at which the attacks came on, the absence of uterine contractions, of œdema, and to the low temperature associated with the quick pulse.

During the second pregnancy greater attention was paid to the condition of the urine. It was examined twice a week from the third month, and no albumen was detected in it till the end of the sixth month. A trace was discovered on one day, and in twenty-four hours after the urine was half full of albumen; and during twelve hours at least of this time the patient suffered a great deal of distress; and at the end of twenty-eight hours the symptoms were so severe as to decide us to induce labour.

During the third pregnancy still more attention was paid to the state of the urine; for it was examined twice a week from the second month, and night and morning from the beginning of the third month. On this occasion no albumen appeared in the urine till the end of the seventh month. Then a trace appeared, and, almost immediately, it increased to one-half, associated with the symptoms preceding eclampsia. She was then bled, with the effect of securing complete relief. The albumen disappeared from the urine completely within twenty-four hours, and remained almost entirely absent for eight days. Then the old symptoms returned, and she was bled again, with equal relief to the suffering and almost as good effect on the urine. The improvement lasted for the week again. Then the old symptoms returned, together with albumen in the urine. She was bled again, and with relief; but the relief was not so complete nor so lasting as on the former occasions; for the albumen was not reduced to less than one-tenth, and the duskiess of the face, and the pain and breathing trouble, although relieved at the time, returned in the course of four days. She was bled once again, and with considerable relief, which lasted, however, only for twenty-four hours. Then labour was induced.

The rapidity with which the symptoms premonitory of eclampsia and the appearance of albumen in the urine came on

seem to point to some other cause for the convulsions than the albuminuria. The urine was examined every twelve hours, so that the moment albuminuria appeared in it could be decided with accuracy. The quantity passed was abundant and of good sp. gr. until the onset of severe symptoms, when the urine became scanty. A trace of albumen appeared in the urine, and in twelve hours the symptoms premonitory of eclampsia set in. In twenty-four hours from the first appearance of the albumen it increased to one-half. At the same time the eclamptic symptoms became more and more severe, the pain pathognomonic of eclampsia being well marked. The appearance of the symptoms premonitory of eclampsia *pari passu* with the increase of albumen in the urine, together with the rapidity of the increase of the albumen—for in twenty-four hours it increased to one-half—seems to me to point irresistibly to the inference that the albuminuria cannot be the cause of the eclampsia; for even total suppression of urine during so short a time would not alone give rise to similar symptoms. The quantity of urine passed in the course of the day when the eclamptic symptoms were severe was less in amount than the quantity passed in health. Dr. Ralfe's analysis, however, shows that although it contained a large quantity of albumen, yet that the urinary constituents were not much diminished in it. Besides, the effect of the bleeding was very remarkable. The eclamptic symptoms were completely and immediately relieved—less perfect on the second than on the first—and within twenty-four hours the albumen had disappeared entirely from the urine on the first and second occasions. Relief on the third, and a diminution, but not disappearance, of the albumen, but for a shorter period. Relief again on the fourth, but only for twenty-four hours. The complete relief on the first and second occasions appears also to point to something else than acute renal mischief; and the less effect produced by the bleeding on the third and fourth occasions is of interest. The effect of the bleeding on the urine is also of interest. The quantity of urea during the twelve hours after the bleeding was increased, while the amount of urine secreted during the same time was diminished. The increase of urea amounted

to 1½ grammes in the twelve hours. Again, amongst the premonitory symptoms, was a swollen, dusky, bloated face; a small, hard, and incompressible pulse; clearly showing strong arterial tension. This came on while urine was being passed in good quantity and of good sp. gr., although there was a moderate quantity of albumen in the urine. After the bleeding the pulse became soft, large, and quicker, and the countenance natural, the arterial tension was relieved, and the albumen disappeared. This again would appear to point to something giving rise to severe arterial tension, which, probably, also gave rise to the albuminuria.

There is one other point in this case to which I would call attention—that the troubles appeared at a later date in each successive pregnancy; as if the system became accustomed to the irritant and more tolerant of it.

The next case is one, I think, of the same nature as, but of a much more severe character than, the one I have just related. It proved fatal in less than twenty-four hours after the onset of the first symptom.

R. W., aged 22, single and a primipara, expected her confinement on February 1st, 1886.

She had vomited throughout her pregnancy, but there was no history of headache, giddiness, or puffiness about the eyelids. She seemed quite well in the evening of January 28th. About 9 o'clock on the morning of the 29th she vomited, and the vomit was said to have contained blood. She also complained of severe pain at the epigastrium. About 9.30 the patient told her sister that she could not see anything, though her eyes were wide open. About ten minutes later the patient had a fit. At 10.30 she had a second fit. This fit commenced with clonic spasms of the left side of the face, the left arm, and the left leg, which were succeeded in a few seconds by tonic spasms. The breath was stertorous. Bloody foam appeared at the mouth. Neither urine nor fæces were passed. Before 11.30 the patient had had three fits in rapid succession. These commenced in the left side, and the head and eyes were turned to the left. She did not recover consciousness between the fits, and she could not be roused. The patient was slightly jaundiced, the conjunctivæ being

slightly yellow. There was slight œdema of the ankles and slight fulness of the eyelids. The pulse was 120, small and hard. The temperature in the rectum was 100. The liver dulness reached from the eighth rib to two fingers' breadth below the margin of the chest in the nipple line. The urine was porter coloured. The pupils were small and equal. Ankle-clonus and increase of the knee-jerk. No petechiæ discovered anywhere. The os uteri was high up, not dilated, and the cervix firm. Thirty grains of chloral were given and chloroform administered. A sponge tent was introduced into the cervix at 1 o'clock. No fits occurred till 1.30 p.m., when two occurred in rapid succession. At 2.30 the patient was still unconscious. The pulse was 130, hard and small. She was bled from the arm, and twelve ounces of blood were drawn. The blood did not flow very freely except just at first. The pulse became softer during the bleeding, and towards the end very small and weak. During the bleeding the patient had a severe fit, which commenced with twitching of the right pectoral muscle. The head and eyes were turned to the right. Then followed right-sided clonic spasms, which soon became general; no tonic spasms followed. After the bleeding, the patient looked better and became less unconscious. She would not put out the tongue when told to do so, but seemed to understand when asked if she felt better. The patient was free from fits till 5.30 p.m. At that time she vomited some greenish mucus but no blood. In the course of the next hour the patient had six fits of the same character as the one last described. The pulse was 180, small, irregular, and compressible. Twenty grains of chloral were given and chloroform administered. The sponge tent was removed and a Barnes' bag introduced into the cervix, and filled just enough to completely fill the os, which was now the size of a shilling. At 7 o'clock the pulse was very much worse. The uterus was felt to contract occasionally. At 9.40 an enema was given, and a soft light-brown stool was passed. Pulse somewhat better than at 7 p.m. No fits occurred until 11 o'clock. Then the pulse was a little better, the os uteri about the size of a florin, the lips rigid, and the cervix becoming obliterated. The temperature in the rectum was 98.6. Twenty-five grains of

chloral were administered by the bowel. Between 11 and 12.45 of the night of January 29th and 30th the patient had six fits, and became quite comatose. Cheyne-Stokes breathing. Pulse very small and rapid. Heart sounds indistinct. Con-junctivæ insensitive. No ankle-clonus. The os uteri as already noted. At 3 p.m. the pulse was almost imperceptible at the wrist. No fit since 12.15. At 7.30 a.m. she had a fit, and death took place ten minutes afterwards.

URINE.

					Urea.	Albumen.
12.15 p.m.	3ij	Bright red	Slightly acid	1028	1.4%	Solid
	Trace of bile acids. Blood casts. Blood cor- puscles. Crystals in radiating forms. Tyrosin and leucin present (chemically).					
4 p.m. 1½ hours after bleeding	3j	Bright red	Slightly acid	?	1.15%	3
	Trace of bile acid. Same microscopic appear- ances. Tyrosin not tested for.					
8.40 p.m. 6 hours after bleeding.	3ijj	Bright red	Neutral	1024	.85%	3
	Bile pigment. Increased amount of bile acids. Blood casts. Blood corpuscles. Tyrosin and leucin found on testing.					

* POST-MORTEM EXAMINATION EIGHT HOURS AFTER DEATH.

Jaundice is very marked. The head of the child was expelled from the vulva, the face being directed backwards. The skin of the child was peeling. No petechiæ in the skin of the child. The fat in the abdomen of the mother wall was paler than natural. There was emphysema (from decomposition) of the subperitoneal tissue just above the bladder. The fundus uteri being very wide and about eight inches long. From the

* I am indebted to Mr. Bilton Pollard for the notes of the P.-M. Examination and the description and the microscopic sections of the liver and kidneys.

top of the fundus to the reflection of the peritoneum measured twelve inches. It was slightly ante-flexed, the fundus standing forward from the spine. The round ligaments were tense, especially the right one. Effusion of blood had taken place into the right broad ligament. A longitudinal incision made into the uterus showed that the cervix was thin up to about three inches above the pubes, and was only four lines in thickness. About that level it was seven lines, and was about the same at the site of the placental attachment. There was a slight crack in the peritoneum in front, near the insertion of the right round ligament. The liver was a little enlarged. There was no notable alteration in its consistence. On cutting into it, its substance was found to crepitate beneath the knife. A portion of it was removed for subsequent examination and placed in methylated spirits, in which it floated freely. On the surface of this portion there was a purplish red mass, which was evidently due to *post-mortem* staining. There was also on the surface a number of purplish-red, slightly elevated dots about the size of pin heads. On section, each of these was found to correspond with a small cavity, the walls of which were stained. There were no detectable contents within these spaces. The cut surface of the liver presented numerous small holes, which were surrounded by an area of bloodstained tissue. Microscopic sections were made after hardening in spirits. In some places the cells were perfectly well formed and stained well. In others the cells took the stain badly, and had a finely granular appearance. In very many places the cells contained clear round spaces. Some of the cells contained two or three small spaces, and others contained larger ones. The spaces had a very clear appearance, and were not refracting like globules of fat. In some parts of the sections there were groups of such spaces occupying almost entire cells, and separated from one another by delicate partitions without the intervention of any liver cells. In other parts of the sections there were much larger spaces bounded by irregular cells, composed of partially broken-down liver cells. The vacuolation of the cells occurred in all parts of the lobules, in some near the centre, and in others near the

periphery. Many of the cells in the vacuolated lobules appeared quite healthy. The vacuoles seemed, when small, to be always located within the cells. There were no hæmorrhages visible in the microscopical sections, and the peripheral parts of the lobules were nowhere specially broken down. The gall-bladder contained a small quantity of bile-stained mucus. The spleen was one-third larger than natural, and dark from extravasated blood. The kidneys were a little enlarged and crepitated between the finger and the knife. They both floated in methyated spirits. The capsules of both stripped off readily. On section, the cortical substance appeared a little enlarged and had a well-marked yellow tint. The spirit in which they were placed acquired in twenty-four hours a bright yellow colour, due in all probability to bile. The medullary portion of the kidney was congested, and the malpighian pyramids contrasted strongly with the yellow cortical substance by which they were surrounded. When the capsules were removed, the surface of the kidney was found studded with numbers of minute projections similar to those on the surface of the liver. The cut surface of the cortical substance presented numerous small spaces. Microscopical sections were made after the tissues had been hardened in spirits. The interstitial tissue was a little more abundant than natural. The cells had, in very many places, dropped out of convoluted tubules and were still present. They were much degenerated and had lost all cellular outline. The epithelium of the straight tubules in the cortical sections was, in some places, granular, but in the main healthy. The epithelium in the tubules of the medullary portions contained granular casts. In the tubules of the cortical substance, which were occupied by casts, the outline of the cells was lost and the cells were indistinguishably blended with the casts; but in the medullary portion the cellular lining of the cast-bearing tubes was perfect and stained well. No vacuolation of the cells could be detected, and the spaces clear to the naked eye appeared to be dilated tubules, the epithelial coating of which had degenerated and disappeared. There were a number of nuclei in the interstitial tissue, but whether or not they were unnaturally numerous could not be determined. The rest of the body was not

examined. The blood drawn the day before her death, when coagulated, showed no buffy coat. The surface of the clot was convex. An excessive quantity of serum came away—about six ounces. The vessel which received the blood had a convex bottom.

These two cases appear to be cases of the same disease. In the first, we had convulsions, albuminuria, slight jaundice, with albumen in the urine. In the second, we had the same symptoms terminating fatally, and we had, therefore, an opportunity of examining the organs after death. We found the kidneys in the first stage of Bright's disease, the liver somewhat enlarged and presenting vacuolated cells and disseminated points of necrotic tissue. The condition presented by the liver can only be the result of severe contamination of the blood. But how that contamination was brought about is a matter of conjecture only. The kidney condition may possibly be the result of arterial tension—but in this instance, of blood poisoning also. What is the relation of the convulsions to these conditions of liver and kidneys? Are they the effect of one or both? Or are they the direct effect of the pregnancy upon a sensitive nervous system? Or are they the indirect effect of the pregnancy acting through impaired blood? To these questions I have no answer to give but this, that there are strong reasons for believing that the albuminuria is not the sole cause. I have shown, I think, that the disease is far more complicated than the first stage of Bright's disease. Then we find that convulsions are comparatively rare in chronic Bright's disease. But more than that—they are so rare in simple acute Bright's disease that their occurrence, as a result of this condition, has been called in question. They occur most commonly in the albuminuria which follows acute specific disease, and especially scarlet fever, and in that which comes on during pregnancy. In scarlet fever, it may naturally, and perhaps safely, be inferred that the blood is tainted by the scarlet-fever poison; while in pregnancy, the form of the poison has not been discovered, though it must be inferred that a poison is present from the conditions found after death.

THE GOUTY HEART.*

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MR. PRESIDENT AND GENTLEMEN,—The cases of gouty disease of the heart that we see in hospital are usually in an advanced stage—many of them cases of gouty or granular kidney with failing circulation, in which the disease is indeed so advanced that the gout is practically forgotten. There are few kinds of cardiac disease more interesting than these; but I do not propose to do much more than mention them in the present paper. I desire to review a much earlier phase of the incidence of gout upon the heart—the phase of simple disturbances of the cardiac functions, motor and sensory, and of temporary disability, occasionally met with in gouty persons. I have myself found this class of disorders full of clinical interest. The diagnosis of the gouty heart calls for attention and some experience. The symptoms which characterise it introduce us to many important physiological and pathological considerations. The prognosis of gouty disturbance of the heart is always comparatively reassuring and comforting to the patient, who is frequently, as we shall presently find, a man of intelligence, “at his best” as regards work and prospects, yet, withal, of an anxious cast of mind. Lastly, the treatment of this class of patient is highly successful if it be based upon a correct diagnosis; otherwise it is apt to end in failure and in aggravation of the symptoms.

But first of all, before I proceed farther, I must show cause for the name “gouty heart,” which has apparently established itself in our nomenclature. Does the disease exist? What are the evidences that in certain persons suffering from cardiac affections it is gout that is the prime cause of the trouble? It is well that we should state our position clearly at once.

* An Address delivered before the West Surrey Branch of the British Medical Association on October 18th, 1894.

I accept as evidence of the gouty nature of a cardiac disorder various circumstances, or combinations of circumstances, which may be stated briefly as follows :—(1) A personal history of declared gout, present or previous ; (2) A personal history of free living, and usually of hard work, with occasional explosions suggestive of irregular gout, in the form of hæmorrhage from the bowels, intestinal fluxes, sick headaches, irritability of the bladder, eczema, insomnia, and fits of irritability or depression ; (3) relief of these symptoms by treatment directed against gout—purgatives, exercise, spare living, and various alkaline salts ; and (4) a family history of gout, megrim, gravel, glycosuria, asthma, and their allies—well marked, direct, and often on both sides.

In the presence or with a history of these circumstances, or of various combinations of them, I should *suspect* the gouty nature of an attack of cardiac disturbance ; and if there were no structural cause to be discovered, I should consider myself *justified* in calling the attack definitely gouty.

The evidences of gout which I have just mentioned differ widely in degree, as well as in kind, in different patients. As a rule we must not expect the subjects of gouty heart to furnish us with a history of unequivocal attacks of acute gout in the joints. It mainly occurs in sufferers from the “irregular” or “masked” forms of gout, which are not, as a rule, associated with the “classical” form. Indeed, I frequently find that the cardiac troubles are the first symptoms that reveal the existence of the gouty habit : and that it is not until distress in the chest has alarmed the patient and his medical attendant that their eyes are opened to the significance of such troublesome and obscure disorders as diarrhœa, flatulence, giddiness, insomnia, wandering pains or heat in the joints, and a certain anxiety of mind, all of some duration, alternating, or recurrent. This circumstance considerably increases the difficulty of the diagnosis, and must be carefully remembered.

So much by way of introduction. I will now attempt to make a broad and rapid sketch of a case of gouty heart, as it has come under my own observation in many instances.

The *subject* of this affection is commonly a man, about 40 years of age or a little more, come of gouty stock. He has

reached that period of life when the industrious application of a clear and active brain has brought him much work of a responsible, and perhaps a sedentary, worrying kind, has left him few opportunities of exercise in the open air, and has surrounded him with the means of comfort and self-indulgence. The man has grown stout; and in his anxiety on this account he has made various experiments with his diet, and returned in an irregular, spasmodic, ill-considered fashion to his old habits of muscular exercise—used the clubs, played tennis, ridden a tricycle, rowed, or visited Switzerland and climbed the mountains. In spite of these measures (which indeed, as I have said, are usually ill-planned) his health, he tells us, is not satisfactory. He often suffers from sudden small pains in the joints. He may have had lumbago or sciatica, or both. Patches of irritable dry eruptions have appeared on the skin, or even an attack of developed eczema. He is plagued by dryness of the throat if he drink champagne, by flatulent dyspepsia with giddiness, and by intense nervousness, irresolution, irritability and depression. His bowels are relaxed, or he suffers from actual diarrhoea of a peculiarly “lowering” character. Insomnia will sometimes make its appearance, driving him to seek relief from chloral—without success, or even with aggravation of his distressing condition. Perhaps he has bronchial catarrh with spasms, harsh cough, sneezing, fits of tightness of the chest whilst he is dressing in the morning, perhaps irritability of the bladder or actual urethritis, and it is possible that his urine has been found to be saccharine.

It is at this period of his history that our patient becomes aware that there is “something the matter with the heart.” He has indulged, willingly or unwillingly, at the dinner table, perhaps once only, perhaps more often; and in a fit of repentance, and for the purpose of correction of his error, he has recourse to bodily exercise the next day. He goes for a long walk, or for a ride on his tricycle. During the bout of exertion (or it may be after it is over, and he has reached home or even retired to sleep) the patient is conscious of a distressing sensation in the præcordia—most likely behind the middle of the sternum. This is pain, or it may be but “oppression,” driving

him to unbutton his vest, or to unfasten his jersey, which seems to him to gird him too tightly. If the attack occur during exertion, he has to pause, looks anxious, and clings to the nearest support. In many instances the paroxysm is anginal. There may be no palpitation, unless the attack has come on in bed, when irregular cardiac action—"fluttering"—is common. In either case the mind becomes anxious. A sense of weakness or faintness pervades the chest and head, the extremities become chill, and a cold sweat breaks out on the surface of the body. Presently abundant flatulent eructations occur; and with these the distressing sensations, and the attack as a whole, pass away.

This account of the acute phases of the disease will not blind us to the fact of its essential chronicity. The history of this patient subsequently to a seizure may be various. He may continue to suffer from post-sternal discomfort of different degrees, or even from angina, as often as he walks fast or mounts an acclivity. For months he may present irregularity of the pulse, with various disturbing sensations in the præcordia. He becomes anxious and distressed in mind, speaks and acts like a hypochondriac, cannot shake his mind free from the suggestion of heart disease and threatening death which these sensations provoke, and which may be strengthened by the unhappy or alarming opinions which he elicits from the doctors he consults. Or he is taken with acute gout, which to his surprise and satisfaction "cures" the troubles at his heart. And he may then have no return of his cardiac symptoms until he is again incautious in eating and exercise, but suffers irregularly from mental depression, insomnia, and other gouty manifestations. And thus his troubles may continue for years.

Let us turn now to the individual phenomena of the gouty heart; and in the process of examining and analysing them let us refer to some of the varieties of them that may be observed.

The *pain* complained of by the gouty subject appears to be essentially cardiac. When fully developed it occupies the common situations of the pain in structural disease of the heart, particularly such as involves the aortic valves and the

root of the aorta. It is referred to mid-sternum; or it is a "tearing sensation at the heart." In other instances it is not a pain proper, but a sense of oppression across the chest, or a sense of tightness, or of burning like heart-burn. In its full development it is anginal, and may then be accompanied by a variety of disturbances of associated parts as we have already described. *Palpitation* occurs in different forms and at different times in the subjects of gouty heart. It may accompany pain and oppression. It may be the sole complaint, in the form of fluttering or of irregularity and intermission, of which the patient is conscious and afraid. Palpitation in these subjects may be readily induced by indigestion, and as readily relieved by eructation. In other instances of the gouty heart it is entirely absent. *Faintness* may be of different degrees, from simple "giddiness" to complete syncope. The latter is associated, in my experience, with severe pain. What the patient calls "giddiness" is found associated with "nervousness," depression, anxiety, and a sense of impending bodily harm. *Respiratory* disturbance and distress are prominent features of some of the acute attacks. In other instances the breathing is entirely unaffected. Obviously, there is sufficient variety in the concomitant conditions to account for such differences.

In a patient complaining of symptoms such as those which we have reviewed, one naturally turns to the *physical examination* of the heart with some expectation of finding evidences of valvular lesion. The results prove, however, to be mainly negative: feeble impulse to eye and to hand; ill-defined limits of præcordial dulness; poor, feeble, thick, dull or indefinite sounds, and no murmur. The result is peculiarly disappointing. One has started on a promising examination, and finds but little that is determinate. Naturally one feels uncertain and unsatisfied. For myself, I have come to regard this indeterminateness of the results of physical examination as a characteristic of the gouty heart. If I am right, then these ill-defined, negative signs deserve more careful consideration as a whole, and more precise individual description. Let us see.

The præcordial impulse can be felt and seen only with

difficulty. Undoubtedly this is partly referable to the bulk and thickness of the chest wall, for the patient is often of strong build, and well covered with the integumental deposit that is laid down at the period when gout is brewing within. With a little care, and the advantage of a good light, we may discover the apex beat situated nearer the left nipple line than in health, or in it, or even beyond it. We thus gather that we have to do with an enlarged and feeble heart. The præcordial dulness is next carefully ascertained—this too with difficulty in the thick-chested subject. The transverse limits will be found to correspond with those yielded by observation of the apex beat. We now apply the stethoscope, and find, instead of the aortic diastolic or other murmur that we expected, only the ill-developed sounds which I have already mentioned. Feebleness at the base, reduplication or half-blowing quality at the apex, are terms that may be applied to the first sound. The second sound is also much less loud and ringing than might be postulated *a priori* from our notions of high pressure in the gouty subject.

Here let me say once more, as I said when speaking of the symptoms, that the physical signs vary considerably in different instances, and that the description which I have just given relates to what may be called a typical case. We do not always find unequivocal signs of enlargement of the heart. Occasionally we find a valvular murmur; for gout by no means uncommonly settles on the subject of chronic valvular disease, and possibly modifies the lesions. The sounds again vary absolutely and relatively with the tension of the pulse—that is, with the phase of the gouty state at the time of observation. On the whole, however, the impression that we carry away from the physical investigation of these cases of gouty heart is that we have to deal with a large weak organ, a muscular organ surely out of condition, one that would ache like the muscles of our limbs in the first excursions of our annual holiday, after a long spell of life conducive to the building of fat rather than to the maintenance of sound active striated tissue.

The pulse, which might be expected to be of service in the diagnosis of gouty heart, varies much. It is of ordinary

frequency, or abnormally frequent or infrequent. Often it is irregular, sometimes intermittent. Quite often it is peculiarly indefinite or indeterminate, like the præcordial signs. The tension, as I have said, is rarely what one would expect—high; but, on the contrary, either moderate or actually low. In some instances the wall of the vessel proves to be thickened.

But it is time that I had returned from these details of physical signs, however interesting they may be, to the broader outline that I attempted to draw of the clinical characters of the gouty heart. It will be by a general survey and correct appreciation of the circumstances under which the symptoms and signs of a large feeble heart make their appearance, that one will chiefly find oneself in a position to say whether they are due to gout or to some other condition entirely different. I have attempted to sketch these as they are presented in the average and typical case—the gouty history (family or personal, or both), the appearance of the patient, and some of the other evidences of irregular gout that are readily ascertained. Here I mention them once more in order to have an opportunity of referring to certain atypical or less ordinary features of the disease.

The age at which the symptoms appear may be much under 40. One of my patients, who suffers from severe symptoms of an anginal character, alternating with acute articular gout, gouty cystitis, and other allied manifestations of his inheritance, had his first seizure at the age of 22 (no less than 36 years ago); another also dates the first flutterings of his heart, which have occasionally been attended with angina and have always been removed by exercise, as far back as his 23rd year. Again, I have been struck by the number of these patients who, having been born and bred in robust country parts, had migrated in early manhood to undertake sedentary, anxious, or worrying work in town. In some instances a period of enforced rest—consequent on an accident, for example—has immediately preceded the appearance of cardiac symptoms as in other manifestations of gout.

As conditions preceding so closely the occurrence of symptoms in different instances as to deserve the name of exciting causes of an attack are indulgence in eating and

drinking, and the flatulent dyspepsia that they induce, excessive smoking, bodily exertion, nervous exhaustion, and such a combination of mental excitement and bodily strain as occurs in hurrying to catch a train.

I will now submit a very few considerations on the *nature* or pathology of the gouty heart.

(1) We know that gout causes dyspepsia, flatulency, and local and perhaps reflex cardiac distress and irregularity. Some of the worst cases of angina are relieved by eructation.

(2) We know that at the other extreme of the scale there are unquestionably associated with gout certain degenerative changes in the arterial system, at the root of the aorta, at the aortic opening and in the coronary arteries, in the myocardium, and in the substance of the mitral segments too. In cases of this class, as I have said, gout is well-nigh forgotten or neglected, being overshadowed by the graver pathological considerations associated with such terms as dilatation of the heart, cardio-vascular sclerosis, chronic Bright's disease, and senile heart.

(3) Gout, or the poison of gout, appears to act upon the neuro-muscular structures in and connected with the heart, as we know it acts upon other organs of high rank in the economy, particularly the brain. Without attempting to be scientifically exact, we may safely describe the functional condition of the brain or heart under the influence of uric acid as a condition of weakness with irritability. The despondency, dulness, impatience, irascibility, restlessness, and sleeplessness on the side of the brain may be justly compared with the faintness, sinking, pain, oppression, flushes, and palpitation on the side of the circulation. Such effects of uric acid on the heart and vessels and their extensive nervous mechanisms would naturally be temporary, periodic, and perhaps paroxysmal, like the more familiar effects of it elsewhere.

(4) We shall also probably be near the mark if we accept sudden *strain* as a predisposing cause of gouty manifestations in the heart, as we find in other parts of the body. It is impossible to resist comparing the advent of an attack of palpitation, intermittent pulse, or angina in a gouty man who

has run to catch a train in the course of the previous day, with the "election" in the same subject of the great toe, the heel, the loins, or an injured joint wherever situated. And in this connection we are probably not unreasonable when we urge that the heart is often strained through the mind as well as through the body, particularly in certain neurotic subjects.

If we now keep before our minds these four sets of considerations, we may be able to draw a picture—far from exact, no doubt, but still instructive—of the pathogeny of gouty heart. We obtain a composite presentment of a heart in temporary, or occasional, or permanent difficulty: a heart embarrassed in its function of maintaining such a display of force as shall overcome peripheral resistance; embarrassed mainly in consequence of intrinsic disability, occasionally also, no doubt, in consequence of extrinsic difficulty—an unreasonable rise of resistance ahead.

A certain number of difficulties attend the *diagnosis* of the gouty heart.

After all, in this disease as in every other, the first condition of success in discovering it is a knowledge of its possible occurrence. We must be prepared to suspect gout in cases coming before us with complaints of the heart. The chief difficulty in the diagnosis—the common cause of failure in it—is forgetting the possibility of gout. As I have already said, the cardiac symptoms may be the first of the long gouty series to make their appearance. The second difficulty in diagnosis is of an exactly opposite kind. We are in danger of being led away by the doctrine of the gouty heart, and of discovering gout in every instance of non-valvular disease of the heart that comes before us in well-to-do men of middle age. We must not forget that in these subjects we are likely to meet with the effects of simple physical strain independently of diathetic disposition; with arterial sclerosis accompanied by cardiac enlargement; with the early phases of chronic Bright's disease and its cardio-vascular associations; with early instances of the senile heart; with the tobacco heart; and with old-standing cases of valvular disease in which the murmur may be missed from one cause or other. One and all of these kinds of cardiac disease or cardiac

disorder must also be kept fairly before the mind, as well as the gouty heart, in the process of diagnosis. You will, of course, be unable in some instances to say which of the several kinds of disease that I have enumerated is present in a pure form, for the simple reason that they cannot always be distinguished, and indeed are mutually associated in so intimate a manner as to be generically the same. The gouty heart, the cardio-vascular degeneration consequent on a hard life, the circulation of premature senility, the thickened pulse and enlarged heart of early Bright's disease will defy differential diagnosis when they are all one, as is sometimes the case.

But the gouty heart occurs quite independently of degeneration; and the evidences of it may occur at intervals, as I have already incidentally told you, for a period of 40 years. In these instances, and in all others, the diagnostic test that has to be judiciously, I might say judiciously, applied, is a history of gout—particularly in its irregular forms, and a bodily and mental constitution the characters of which I need not recapitulate. Two other circumstances will help us materially in our diagnosis—namely, first, the success of treatment directed against gout and the failure of other methods; secondly, the happy disappointment of an unfavourable prognosis that we may at first have been led to give.

Under the head of *prognosis* three questions present themselves; and they are questions that we must be prepared to have put to us. The first of these is—Will the patient die? Little wonder that the worst is feared, when angina or faintness is seizing on the sufferer at short intervals, and deathly feelings form part of the attacks. My experience is that these patients do not die. I have known and watched many of them for years, and I am not aware that the event has been fatal in any of these instances.

Secondly, Does the gouty heart pass into the structural disease of the heart associated with contracted kidney? I have already said that we often have great difficulty in drawing the line between these two morbid states of the heart, and therefore I cannot deny that cases regarded for a time as simple gouty heart do occasionally proceed to chronic Bright's

disease. But the typical case does not do so : witness the one I have mentioned more than once, which first manifested itself 36 years ago. Another fact may be most fittingly mentioned here : that I have known the subject of gouty heart pass bravely through the perils of an acute specific illness lasting many weeks.

The third question in prognosis is—What is the prospect of relief? This depends chiefly on recognition of the true nature of the affection that you are dealing with, and on the treatment founded on it. Proper treatment affords relief. We are thus brought to the *treatment* of the gouty heart. I repeat that this is not a difficult matter when the diagnosis has been made. I do not mean that it is easy in the sense that we have a specific drug or combination of drugs at our disposal that will certainly cure it. When we remember that the subject is usually neurotic as well as gouty, and that the disturbance of the circulation in the acute phases is a disturbance of the relation of the driving power of the heart to the resistance ahead of it, we will agree that treatment of a general kind must occupy a leading place in our method ; and that there is abundant opportunity for the exercise of skill and tact in the management of the patient. One of the very first ends to be secured is the re-establishment of confidence. Reassurance often works very powerfully for good on the subject of gouty angina. He “takes heart again” when he is told that he may leave his nitro-glycerine tabloids or his nitrite of amyl capsules at home, and go to walk without them. At the same time it would be foolish and unreasonable to make light of work and worry in this affection. It is always wrong to tax and try an irritable heart. For a time at least, whilst you are making your observations and confirming your diagnosis, gentle exercise on the level only should be allowed : certainly no kind or degree of exertion that induces pain or oppression. In the larger number of cases this means that the patient give up his work for a time. When he does so it is not to remain idle indoors, but to avail himself as fully as possible of the influences of a healthy outdoor life in fresh air, following some pleasing occupation of a quiet kind. At the very first, most kinds of exercise, including all sports, will be forbidden ; but

presently, all going well, he will be allowed easy driving, golf, fly-fishing on small streams, or even gentle riding on horse-back, and later still a little easy shooting. To those who do not engage in such amusements, walking may be recommended in interesting country parts or on the coast. The locality to which the patients are sent must be carefully arranged, keeping in mind the conformation of the surface, the season of the year, the necessity for a certain degree of bracing influence in the climate, and the tastes and disposition of the individual.

This brings me to the subject of the value of *spas* in the treatment of the gouty heart.

Some of the best results that I have seen from the treatment of gouty heart have been obtained from the use of recognised mineral waters. I have known one patient visit Homburg in great distress, year by year, after passing through alarming attacks of angina, pulmonary congestion, and great depression at home; and I have known him return as often, after six weeks, restored to health and eager for work. I confess baths and waters are a method of treatment that calls for the greatest care in the selection of them, and for even greater caution, if possible, in the use of them. Without judgment on the part of the doctor at home and the doctor abroad, such a patient, especially if over 50, may be very easily pulled to pieces. Some of our own baths, such as Leamington, Buxton, and Llandrindod, may yet prove useful in the gouty heart.

There can be but little doubt how the gouty patient ought to be dieted. First, his diet should be *sparc* in amount. This is the most important point. It should be of an ordinary mixed kind; for let us observe that if we begin to theorise on the relative dangers and relative values of the different classes of food stuffs—the proteids and carbo-hydrates in particular—we shall assuredly land ourselves in practical difficulties. Irrespective of the fact that the proper diet in gout is still unsettled, we have to remember when dealing with the gouty heart that this great nervo-muscular organ is often nourished insufficiently as well as poisoned. I make it another rule of diet in these cases to order a fair amount of water to be drunk at each meal; and Vichy water is perhaps

the best beverage of all. In many instances a small definite quantity of stimulants, such as whisky or a pure red wine, has to be allowed at meal times, but all white wines and beer must be strictly forbidden. The question of smoking must never be forgotten. To ensure the best and speediest results, tobacco in every form is best avoided entirely. Some patients plead for one pipe a day; but I have known even the last pipe have to be given up by the gouty old man with a weak heart before cardiac distress disappeared.

Lastly, is there need for drugs? One hardly knows how best to answer this question, unless one say that drugs are valuable if properly selected, useless or worse than useless if prescribed in a routine fashion from the list of cardiac tonics. If we wish to know what class of medicines does most good in gouty heart, we have but to ask the sufferer after an experience of a year or two. It is remarkable how many of these patients suggest blue pill, or tell you spontaneously that they have found it better than all the other remedies prescribed for them. Other patients praise saline purgatives, and the success of mercurial and saline purgatives in these cases is one of the strongest arguments in favour of the pathology of them which I have advanced. I will not enter into the details of the mercurials I have tried, but I may add that (in some cases, at any rate) Plummer's pill, taken every second night for a fortnight, is highly successful.

Next to purgatives, the drugs that give us most satisfaction are iodide of potassium, arsenic, strychnine, and digitalis with its allies. If pain be a prominent feature, iodide should be ordered in combination with alkalis; if faintness, strychnine, variously combined. Arsenic and strychnine make a valuable combination in some instances. The use of digitalis demands judgment. Prevalent views about vasomotor angina might at first sight suggest the opposite class of remedies—those which lower blood-pressure very readily and very rapidly, particularly the nitrites and nitro-glycerine. But we must not forget that the sufferer from gouty heart has no such pulse habitually, no such evidence of cardiac vigour as we associate with high tension and as we typically find in some cases of chronic Bright's disease; and that if

the tension do suddenly rise to a dangerous height during the angina, such a paroxysm may be safely regarded as a phenomenon of weakness, not of genuine strength, of the vaso-motor system. His poor pulse and the signs of large feeble heart rather suggest cardio-vascular tonics. It will be well, therefore, as a rule, to order, say, five minims of tincture of digitalis to be taken with each dose of any of the preceding drugs or combinations that you may decide to give. In some of these patients strophanthus occasionally proves peculiarly suitable as a substitute for the older drug.

During the anginal seizures we naturally trust to the nitrites and nitro-glycerine, which are so powerful and so swift in their action. In more prolonged instances I would give a hypodermic injection, consisting of two minims of the Pharmacopœial injection of morphine and two minims of the Pharmacopœial solution of hydrochlorate of strychnine—that is, $\frac{1}{3}$ th and $\frac{1}{30}$ th of a grain, respectively, of the two drugs. The effect of this combination on a disabled heart is often extremely satisfactory.

Whilst I recommend a single dose of morphine given by your own hands in the acute phase of the gouty heart, I would urge you to discountenance the use of sedatives—particularly hypnotics—for which the sufferer often craves or has actually acquired a habit. Sulphonal has lately replaced chloral hydrate in considerable measure as the popular remedy for sleeplessness. Such drugs do endless mischief in the insomnia of irregular gout—I mean in the hands of the patient himself and his chemist.

ON OBLIQUE FRACTURE OF THE FEMUR
IMMEDIATELY ABOVE THE CONDYLES.

BY HOWARD MARSH, F.R.C.S.,

Surgeon to and Lecturer on Surgery at St. Bartholomew's Hospital.

A GRAVE injury of which any practitioner of general surgery may at any moment have to take charge, and the treatment of which may prove difficult and embarrassing, is deserving of careful study in order that some conclusions may be formed as to the best method of dealing with it. Especially is the discussion of such a subject advisable when many of the handbooks of the day either do not mention or make only a passing reference to it. These remarks are illustrated by the following example of one of the varieties of fracture of the lower end of the femur :—Mrs. R., aged 52, staying at the seaside, on leaving a cab on a dark evening, and intending to mount the three or four steps which led to her street door, mistook her whereabouts and fell into the area, a drop of several feet, striking her left knee with great force against a concrete wall. When a surgical examination was made, it was found that she had sustained a fracture of the lower end of the left femur close to the knee-joint. The fracture was oblique, starting in front immediately above the articular surface of the condyles, and running upwards and backwards so as to reach the popliteal surface of the bone three inches above the joint. The upper fragment, which was somewhat pointed and bevelled at the expense of its posterior surface, had evidently been driven through the quadriceps extensor tendon, and was felt immediately beneath the skin. Considerable swelling of the knee and of the soft parts around the fracture quickly took place, and made it impossible to ascertain any further details as to the relation of the fragments to each other. There was shortening of about two inches. A careful and prolonged attempt was made, under an anæsthetic, to get the fragments into place. But, in spite of all that could be done, the upper

fragment still remained transfixing the tendon and protruding close under the skin, and the shortening could not be corrected. In this dilemma a Liston's long splint was applied, with the hope that, although shortening and some deformity would remain, the fracture might unite. When, however, the limb was examined six weeks later, it was found that no union had occurred. The two fragments moved with complete freedom on each other. When the case was seen in London seven weeks after the original accident, the effusion into the knee-joint had been absorbed, but there was a good deal of brawny swelling around the seat of injury. The line of the fracture was readily made out; the upper fragment was almost through the skin at a point in the middle line, and three-quarters of an inch above the patella. The lower fragment projected somewhat backward, so that it could be felt protruding (though not to any marked degree) into the popliteal space. The limb was two inches short, and the leg, when unsupported, became a good deal rotated outwards. In consultation it was agreed that, as—owing to the protrusion of the upper fragment through the tendon—there was no hope that union would follow a further period of rest, and as the limb was at present quite useless, the seat of fracture should be examined in order to ascertain whether it was possible to adjust the fragments; but that if this could not be done, amputation should be performed. The grounds for this conclusion were the following:—The patient, who was 52, was pale and sallow, and the sp. gr. of the urine—there was no albumen—was low (1015 or less); the ends of the fracture had become embedded in cicatricial tissue and were surrounded by large muscles, and the lower fragment was placed so deeply in the popliteal space, and was so completely overlain by the upper, that it could be reached only with considerable difficulty. A prolonged attempt; therefore, to save the limb would, it was felt, seriously endanger the patient's life. At the operation, which was undertaken eight weeks after the occurrence of the accident, a flap of skin and subcutaneous fat was turned back, and the quadriceps tendon exposed. It was now seen that the upper fragment had transfixed the thick part of the tendon just

above the patella, and that the lower fragment could be reached, for wiring or pegging, only by removing two inches of the upper fragment, and by a dissection even more formidable than had been anticipated. In a young subject this would have been undertaken, but at this patient's age it involved too serious a risk. Amputation was therefore performed. The wound was practically healed



FIG. 1.



FIG. 2.

Fig. 1.—Longitudinal section of an oblique fracture of the lower end of the femur. Immediately above the patella the quadriceps extensor tendon is seen lying between the fragments. Fig. 2.—A specimen which shows an almost exactly similar relation of parts to that depicted in Fig. 1.

in the course of a week. A longitudinal section of the parts is shown in Fig. 1. It will be seen that the upper fragment overrides the patella, and that the whole of the tendon for a distance of about an inch lies between the two fragments. In No. 757 in the Museum of St. Bartholomew's Hospital (*see* Fig. 2) an almost precisely similar condition of parts may be observed. The tendon intervening between the two fragments

has prevented union of the fracture, and the upper fragment lies over the front of the patella. In this specimen firm ankylosis of the knee-joint has occurred. In No 756, in the same museum (Fig. 3), the femur is broken obliquely four inches above the joint, the ends overlap to the extent of upwards of four inches, and the upper fragment, which lies along the inner side of the patella, projects two inches beyond



FIG. 3.

FIG. 4.

Fig. 3.—Oblique fracture of the lower end of the femur, with wide overlapping of the fragments. The lower end of the upper fragments protrudes by the side of the patella two inches beyond the soft parts; and has undergone necrosis. Fig. 4.—Shows fracture of the lower end of the femur, in which the displacement of the upper fragment, instead of being forwards, is backwards into the popliteal space. Firm union has occurred. There is complete bony ankylosis of the knee joints. (St. Bartholomew's Hospital Museum, No. 623.)

the soft parts. No bony union has occurred. The knee-joint is firmly ankylosed.

The particular fracture of which Mrs. R.'s case is an example is one which traverses the lower end of the femur in an oblique direction downwards and forwards, and terminates

just above the articular surface of the condyles. It may be produced either by a fall upon the feet—Hamilton records a case in which both femora were thus fractured—or more commonly by a fall on the knee. In some instances of fracture just above the condyles the quadriceps is not injured, either because the force applied, though it breaks the bone, is insufficient to drive the fragments through the tendon, or because the fracture is produced by a fall on the foot when the limb is extended. In this position the upper fragment and the quadriceps tendon are parallel with each other. When, however, the fracture is caused by the direct application of force to the condyles, as in a fall on the knee when the limb is flexed, the quadriceps is in a tense condition, and the fragment impinges upon it almost at a right angle. Thus circumstanced, it can hardly escape perforation. The main features of the fracture are (1) Transfixion by the upper fragment of some part of the great tendinous and muscular hood formed by the quadriceps where it passes over the lower end of the femur to be inserted mainly into the upper border and sides of the patella. According to the position of the limb at the time, this transfixion will be in the middle line, or on either side—more often on the inner. (2) Transfixion or laceration of the suprapatellar pouch of the synovial membrane, so that the knee-joint is directly involved. This must have happened in the present instance. It leads to acute arthritis, which may end in ankylosis. (3) The tilting backwards, by the gastrocnemius and other muscles, of the upper end of the lower fragment into the popliteal space. The amount to which this takes place varies in different cases. In some it is slight, while in others it is considerable. In dealing with this displacement when it is marked, Bryant has divided the tendo Achillis so as to relax the gastrocnemius—a proceeding which Morris, of Harvard, quoted by Hamilton, found very serviceable. A study of museum specimens shows, however, that this tilting of the lower fragment is as a rule less than might be expected. The real difficulty depends on the protrusion of the upper fragment through the quadriceps, so that more or less of this structure intervenes between the broken surfaces. To get the end of the

bone out of a buttonhole slit in so strong a tendon as that which the quadriceps forms an inch or two above the patella, and when the only means of doing so consists of extension, applied almost at a right angle to the axis of the fragment, seems a nearly hopeless task. This method was tried with skill and perseverance in the case of Mrs. R., but it failed, as it has failed in other instances. If extension fails, as probably it will, the best procedure would seem to be at once to expose the quadriceps, and enlarge the opening, through which the bone protrudes, in a longitudinal direction, or, if necessary, transversely also; and when the fragment has been disengaged, to close the wound in the tendon by buried sutures. In some cases it might be necessary to remove the protruding end of the bone. The operation necessary for disengaging the upper fragment would probably involve free opening of the knee-joint; but this, at the present day, would not contra-indicate its performance, although it would demand the strictest aseptic procedure.

In the treatment of fractures in the vicinity of the knee-joint, the double-inclined plane has found favour with some surgeons. But in the experience of the majority, as certainly in my own, it has been disappointing. The patient finds it uncomfortable, and it is untrustworthy as a means of keeping the fracture at rest. The best apparatus probably is a long Liston's outside splint, with a shelf behind, upon which the limb, for some distance above and below the fracture, may firmly rest. If the fracture is compound, or if an operation has been performed, the splint should be interrupted opposite the fracture. This can be conveniently done by cutting out the necessary length, and refixing it with a well-made hinge at one end and a firm sliding bolt at the other, so that it opens and shuts like a door.

When it is found that the variety of fracture under discussion has completely failed to unite, notwithstanding the best adjustment that could be secured, combined with a sufficient period of rest, the treatment to be adopted is a subject for careful consideration. The primary cause of non-union is the transfixion of the tendon by the upper fragment. This has two effects. It not only introduces a substantial layer either of tendon or muscle between the

fragments, but—usually, at least—it prevents the descent of the lower fragment. In the cases from which the specimens represented in Figs. 1 and 2 were taken, it will be seen that it had been found impossible to restore the limb to its proper length. Under these circumstances, and as the limb is useless, can operative measures be adopted with safety and with a good, or even a fair, prospect of success? The evidence derived from the case of Mrs. R. affords a somewhat doubtful answer to both parts of this question. When the fracture was superficially exposed, it was clear that to get such a command of the fragments as might render their adjustment practicable would involve so large a wound, and an operative proceeding so prolonged and tedious, that very serious danger to life would be incurred. The specimen (Fig. 1), now that a good deal of cicatricial tissue has been removed, and the relative positions of the two fragments and of the intervening tendon, disclosed in a longitudinal section, might suggest a different conclusion. But such a test is fallacious. Every surgeon who has dealt with an ununited fracture in a deep wound will appreciate the difference between the difficulties of the operation and the ease of understanding it all when the parts are displayed in a skilfully-prepared museum specimen. Whether in any particular case an attempt should be made to procure union must turn largely on the patient concerned. If the patient, as in the case of Mrs. R., is well past middle life, the risk of the operation is probably—unless the local conditions prove to be very favourable—too great to justify its performance, especially when it is remembered that there is no guarantee that union can be secured. On the other hand, when the patient is well under forty and the general health is sound, a persevering effort ought to be made. The operation would now be much more difficult than when undertaken directly after the fracture has occurred, but it would be of much the same character, and need not therefore be separately described.

DIABETES INSIPIDUS.*

BY ROBERT SAUNDBY, M.D., F.R.C.P.,

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THE case to which I wish to draw your attention this morning is that of a young man, A. W., aged 26, a sieve-maker, who was admitted into hospital on September 12th, 1894, complaining of intense thirst, frequent micturition, and the passage of a large quantity of urine. This was the third occasion on which he had been an inmate of our wards for practically the same symptoms. He had suffered from thirst all his life, but he believed he had gradually got worse. For the last ten years he had been subject to attacks of pain in the abdomen, and when in hospital for the first time, four years ago, there was some tenderness on palpation in the right lumbar region. On the second occasion, tenderness in the abdomen was noted "over both kidneys, but no marked enlargement of either"; this was in 1891. He contracted gonorrhœa about four years before his final admission, probably before he came to the hospital at all, and he has since suffered from a persistent gleet. His family history reveals no instance of a similar condition nor any evidence of diathetic disease, except in the person of an uncle, who suffers from gout. The patient was a slenderly-developed, badly-nourished man, looking younger than his age; he weighed 8st., and as in 1890 he weighed 8st. 3lb., and in 1891 7st. 11lb., we may take it that he has been about the same weight for some years, although he stated on admission that he had recently been losing flesh. His skin was very dry, and his face flushed; T. 97·5°, P. 78, R. 16. His appetite was very poor, but his thirst was constant, disturbing his sleep. His tongue was furred and furrowed. He vomited nearly every morning, the vomited matter consisting of watery mucus for the most part. He had lived in a beershop and had all his life been accustomed to drink large quantities of

* A Clinical Lecture delivered at the General Hospital, December 3, 1894.

beer to relieve his thirst. His abdomen was tender, especially over the left kidney; liver and spleen not enlarged; bowels confined. He suffered from pain at the præcordia, with frequent attacks of dyspnœa, but the heart sounds, though weak, were pure, and this organ was not obviously altered in size; lungs normal. He stammered in his speech, and had some complaint of numbness in his fingers and toes; but in other respects his nervous system presented no anomaly. The urine on each occasion of his stay in hospital measured between five and six pints; but he told us that when he was going about it was more, and his thirst was greater: its sp. gr. was about 1·010, and its reaction was generally alkaline. This time it contained a very little albumen due to pus; there was no sugar; the urea was diminished, being little over 200 grains in twenty-four hours; no casts were ever found, but some pus corpuscles were constantly deposited.

He was treated, mainly for his stomach symptoms, by light diet, chiefly milk, bismuth and alkalies, and saline aperients. At first he improved, but in a few days he began to complain very bitterly of pains, neuralgic in character, in his legs; these were not relieved by salicylate of soda. On the 26th he was given a hypodermic injection of three minims of the Pharmacopœial hypodermic solution of morphia. After this he slept heavily all through the 27th and 28th, dying on the 29th of September. During this time he could be roused and answered sensibly, but when left alone he fell asleep again. He passed very little urine during this semi-comatose period. The post-mortem examination was made on the 29th. The only noteworthy changes were some œdema of the lungs, slight hypertrophy of the left ventricle of the heart, a certain amount of enlargement and fatty change in the liver, but the kidneys require detailed description. Both these organs were in a state of hydronephrosis, and I show you them in this jar, in which they have been mounted for permanent preservation.

The *right* kidney presented a large cyst which bulged forwards under the peritoneum. On removing the organ, this cyst was found to be the greatly dilated renal pelvis. From the cortex to the hilum it measured three inches, and its length was the same. On section, the pyramids and cortex were

much atrophied; the capsule was partially adherent; the ureter, which was much dilated, opened from the most depending part of the pelvis, and was not obstructed. The *left* kidney was small and its pelvis was dilated, though not to the same extent; it contained a concretion about the size of a hemp-seed. The ureter was also somewhat dilated, but not obstructed. The cortex was atrophied, and the capsule adherent. The weight of the two kidneys taken together was twelve ounces.

The bladder was enlarged and its walls thickened, but the orifices of the ureters and their lumina were quite patent. There was no prostatic disease or urethral stricture. I may add that the brain looked anæmic, but otherwise appeared normal, and that the medulla oblongata, examined microscopically, showed no morbid change.

This is an example of diabetes insipidus occurring early in life, lasting for twenty or more years, and terminating by uræmia caused by progressive sacculation of the kidneys with atrophy of their secreting tissue.

Such cases are not unknown, but are sufficiently uncommon to make this case worthy of your special notice. Diabetes insipidus is a disease which is characterised clinically by the presence of two symptoms—polyuria and excessive thirst. Its pathology is very obscure, for although we possess much definite knowledge as to its relation to heredity, injuries to the head, pregnancy, etc., we are not able to determine the actual anatomical cause of the symptoms, and we are therefore obliged to fall back upon certain experimental results showing that these symptoms may be induced by puncture of the floor of the fourth ventricle (C. Bernard), or electrical stimulation of the cervical sympathetic (Peyrani), from which we infer that some obscure disturbance of the nervous system, not recognisable by our present means of investigation, may be the actual cause of the disorder.

It is generally regarded as a much less serious disease than diabetes mellitus, for the subjects of it have in many instances lived to a good old age, and have been able to perform all the active duties of life; but we must not allow ourselves to overlook the danger which this case illustrates, that the disease

may set up changes in themselves capable of bringing about a fatal result.

Before I go farther, perhaps I ought to give you the reasons that induce me to regard these changes as the consequences of the polyuria. It may be suggested (1) that they are accidental coincidences; (2) that they indicate primary renal disease, with polyuria as a symptom.

If we turn to the recorded cases, we find a series of illustrations of consequential renal changes, beginning with those of Neuffer and Beale, in which the renal tubules were dilated, some being stripped of their epithelium, others stuffed with fatty *débris*, while the perivascular connective tissue was increased. We go on to Eade's cases. In the first, both kidneys were abnormally "dense and pale, evidently undergoing a gradual process of absorption," while the infundibula and pelvis were greatly dilated. In the second, the ureters and pelvis were dilated, the cortical portions very thin, and the cones "converted into fibrous tissue containing many cystiform spaces." Finally, we have Strange's case, in which "both kidneys were reduced to mere sacs of from twice to thrice the size of the healthy kidney." Such a series cannot be explained by coincidence.

In answer to the second suggestion, we note that there were none of the ordinary causes of hydronephrosis present—no obstruction in the urethra or ureters; so that we should be quite at a loss to explain the condition except as a consequence of the polyuria. Finally, hydronephrosis is accompanied by polyuria, when it occurs in relation to its ordinary causes.

We must, therefore, accept these changes as the result of the gradual over-distension of the urinary passages by the enormous quantity of urine secreted; and we may perhaps find in the youth of some of these patients a factor which favours this occurrence. In the extreme case recorded by Dr. Strange the patient was only eighteen. Moreover, it is a process which requires many years for its development, and this, I suppose, is why we do not meet with it in diabetes mellitus, which, especially in young people, does not last so long.

It is of the utmost importance to diagnose these cases

correctly, and I believe this may be done. I do not attribute much importance to the presence of albuminuria in my case, because I believe that was rightly ascribed to the presence of pus from the urethra, nor can it be relied upon as a constant symptom in such renal complications, for in Strange's case there was none; yet albuminuria, unless so explained, would always be a suspicious circumstance. The pain and tenderness in the kidney regions were suggestive but not ambiguous in their meaning. The point to which I would direct your attention is the amount of urea excreted. It is well known that in this disease the excretion of urea is generally greater than normal, and may be enormously in excess. But in the case we are considering, the amount of urea excreted daily was very little over 200 grains—a figure which, even on milk diet, is dangerously below the normal for an adult person. When he was in hospital in 1891 he excreted 480 grains of urea, so at that time he evidently possessed an adequate amount of healthy kidney substance.

Let me, therefore, recommend you to watch the urea excretion in all cases of diabetes insipidus, and to be on your guard against a fatal uræmic termination whenever this becomes persistently reduced below the physiological proportion, although you will remember that this varies at different ages. Dr. Ralfe gives the following table:—

At 5 years	...	...	180 grains
12 "	...	...	320 "
21 "	...	...	535 "
40 "	...	...	555 "

But I am accustomed to teach that these figures are too high for a patient in bed on milk diet. I believe the case is safe so long as the daily amount exceeds 300 grains.

The Month.

"Quidquid agunt homines."

IN assuming charge of a periodical with so honourable a record as **THE PRACTITIONER**, I have a deep sense of the responsibility I am undertaking. **THE PRACTITIONER** has a good name to be jealously preserved, and traditions of good service in the diffusion of sound medical doctrine to be kept alive. It will be my earnest endeavour to keep the publication at the same high level of scientific excellence and professional dignity which it has steadily maintained during the twenty-six years of its existence. The practical character stamped upon it by its founder, the late Dr. Francis Anstie, has been faithfully preserved during the many years it has been in the able hands of Dr. Lauder Brunton, Dr. Donald MacAlister, and Dr. Mitchell Bruce; and in this respect I will, to the best of my ability, walk in their footsteps. It is an honour to succeed such men in the editorial chair, even by a turn of that tide which runs in the affairs of journals as of men; but it is an honour which in my case is not without certain attendant drawbacks. I can promise, however, that I will spare no pains to preserve untarnished the heritage of good repute received from my predecessors.

It has appeared to me that certain new features might be introduced into **THE PRACTITIONER** which might make it more attractive from a purely literary point of view, without in any way lowering its scientific character. In the first place, as is indicated on the title-page, its scope will be widened; it is to be a "Journal of practical medicine," using the term in its broadest sense, as including everything falling within the range of the healing art. Arrangements have been made for the publication of a series of short practical papers by some of the highest authorities in medicine, surgery,

obstetrics, and in the more important of the special departments; and the promises of support in this way which I have already received from many men whose names give weight to the productions of their pens, give me a tolerably assured confidence that, in the quality of its original communications, THE PRACTITIONER will not be inferior to any other medical journal.

In addition to contributions by writers of established reputation, the pages of THE PRACTITIONER will always be open to records of honest work with a directly practical bearing which may seem to be of sufficient novelty and importance to deserve publication.

Among the new features of THE PRACTITIONER in its present form will be an article summarising and commenting on the medical events of the month. In this article I propose to speak directly to readers in my own person. I hope this will not be mistaken for egotism; it is really modesty. The editorial "We," which seems to carry in it such a weight of authority, when analysed resolves itself into an "I," which may be the reverse of imposing. It can hardly be considered arrogance if I choose to dispense with the customary "make up" of the "able editor" and speak simply in my real character as what Bismarck contemptuously termed "the man with a pen in his hand." I do not take it upon myself to instruct my readers; I will merely deal, in my own way, with what appear to be the most important matters exciting the attention of the profession. It will be my special aim to make the article useful to those who live at a distance from the great centres of medical life, and outside its movement, as giving them a brief summary of passing events, and helping them to keep in touch with the pulse of thought and feeling in the general body of the profession. As the motto at the head of the article is intended to indicate, whatever is done or said among men, so far as it concerns the medical profession, will be looked upon as falling within the scope of this monthly article.

Another new feature is the "Medico-Literary Causerie," in which the literary, as distinguished from the scientific, side

of medicine will be dealt with in a light and chatty style. Books, old and new; medical antiquities and folk-lore; medical history and general history from the medical point of view; medicine as pictured in the mirror held up by literature to Nature in different ages; anticipations of modern thought by ancient thinkers—these, and kindred subjects belonging to the borderland between medicine and literature, will be handled without prosiness or pedantry.

Another new feature will be a short summary of matters relating to Public Health. In this article attention will be called to all new developments of sanitary science which seem likely to be practically useful; the bearing of all general enactments and local measures directed to the prevention or suppression of disease will be pointed out; the conduct of public authorities in their capacity of guardians of the public health will be discussed without fear or favour; the effect of proposed changes in sanitary administration will be considered from the standpoint of public utility, and the interests of that section of the medical profession which is engaged in the sanitary service of the State will be steadily kept in view.

Every effort will be made to keep readers abreast of the progress of practical medicine by bringing to their knowledge all the best work done in this field throughout the world. In view of the accessibility of the medical journals of our own country, however, it has been thought advisable to reserve the small space available for this purpose for abstracts of papers published in foreign periodicals. In the selection of papers for abstract, regard will be had to the importance of the subject treated of, and to the practical value of the matter, as well as to the authority of the writer. It is intended that the abstracts shall represent the results not of a mere gleanings of the fields of current medical literature, but of a winnowing of the material gathered.

All books sent for review will be considered on their merits, without regard to the position or personality of the writers. Lord Beaconsfield, in "Lothair," says the critics are "the men who have failed in literature and in art." This jibe will not apply to THE PRACTITIONER. I hold firmly by the principle that in

scientific work a man should be judged by his peers. The reviews of books will, therefore, be written by experts in the subjects handled by the authors; the perfunctory judgments and conventional compliments of the "irresponsible indolent reviewer" will be avoided; the general scope and character of the book will be described, the gist of the author's teaching, if he has anything to teach, accurately presented, and the value of his work fairly appraised. Books that do not seem to deserve serious criticism will not be noticed at all. Pharmaceutical novelties and new inventions of all kinds which seem to be genuine additions to our resources in the treatment and prevention of disease, and in the alleviation of the sufferings, disabilities, and discomforts of invalids, will be submitted to the test of actual practice, and, if found to be of any value, will be brought to the notice of the profession.

Under the heading of "Practical Notes," hints as to diagnosis and treatment—drawn from the most trustworthy sources, or learnt from the best of all teachers, experience—and prescriptions of proved efficacy, will be given, which it is hoped may be useful to practitioners in the emergencies they may be called upon to meet in their daily work.

Last, but not least, there is a "new feature" to which I beg to invite particular attention—the increase in the number of pages and decrease in the price of THE PRACTITIONER as it is now offered to the profession.

* * * * *

The results so far achieved by the antitoxin treatment of diphtheria appear to me to give solid ground for the hope that at last a real antidote to this bane of child life has been discovered. Of course, in estimating the value of any new remedy which excites the enthusiasm of the profession, it is always well to leave what dressmakers, I believe, call a "margin for shrinkage." The weak point in the new treatment, to my mind, is that it is too successful; its effects are painted in colours too brilliant not to fade a little by-and-bye. One of the lessons which the philosophy of medical history teaches is that *a new remedy always cures*.

It is never an easy matter to arrive at a correct estimate of the value of any new method of treatment, and in the case of antitoxin, the difficulty is increased by the very favour with which it has been received. Enthusiasm in one quarter is sure to beget contradiction in another; passions are aroused, and the scientific judgment is blinded by prejudice, and perhaps by envy and all uncharitableness. There is, besides, the statistical fallacy, which has to be guarded against with especial care in the case of diphtheria. By making no distinction between true diphtheria and the affections which simulate it, or between mild and severe forms of the genuine disease, statistics have been compiled showing the most brilliant results—even 100 per cent. of cures—from perchloride of iron, corrosive sublimate, carbolic acid, menthol, salaktol, and a host of other substances. Only cases which satisfy the bacteriological test—that is to say, in which Löffler's bacillus is found—can be accepted as examples of true diphtheria; and I am glad to see that a recognition of this fact is to form the basis of the investigation of the action of antitoxin undertaken under the auspices of the Metropolitan Asylums Board. With regard to the other source of confusion which has been referred to, every practitioner knows that there are many cases of true diphtheria of so mild a type that no *Deus ex machina* in the form of immunised serum is required to cure them. They get well with any treatment, and even with none. It is obvious that a number of such cases, if placed to the credit of the antitoxin method, may give a very erroneous notion of its healing power. In a matter of this kind, unless observations are weighed as well as counted, statistics are simply a delusion and a snare.

Still, when every possible allowance has been made for exaggeration and error, a sufficient solid residuum remains to make the discovery one of the greatest of modern times. It is far more than the establishment of a fact; it is the practical realisation of an idea which will, there can be little doubt, be fruitful of results in the cure and prevention of infectious diseases for which we yet hardly dare to hope.

It is curious that though the credit of the discovery belongs to a German, it is in Germany that the method has been most severely criticised. The violent attack made on Behring and all his works, by Hansemann, at the Berlin Medical Society, a few weeks ago, derives most of its importance from the fact that the critic is Virchow's assistant. The Father of Modern Pathology has never bent his knee with a good grace in the worship of the bacillus. He was the chief agent in the demolition of Koch, and he is believed to be as little friendly to Behring. The personal factor plays so large a part in the whole business in Germany for the moment as, to a certain extent, to obscure the scientific issue. Perhaps, too, our German friends feel that they were a little carried away by scientific *Aberglaube* at the time of the great Koch "boom," and find in the recollection of tuberculin a useful corrective of any tendency to premature enthusiasm about antitoxin.

It may not be inappropriate to point out that the tuberculin differs essentially from the serum treatment. In the former case the remedy used was composed of poisonous matter extracted from the bacilli which are the agents in producing the disease to be treated; in the latter the remedial substance is the serum of animals immunised against the disease by the injection of analogous poisons. The serum treatment rests on a much more solid basis than the tuberculin method, and the comparative failure of the latter in no way lessens the hopefulness of the former. Let us, however, be quite clear as to what antitoxin can, and what it cannot, do. It is essentially an antidote to a specific poison: that is to say, it can neutralise the action of the poison, but it has no effect on the organic changes and functional disturbances caused by the poison. If used in time, antitoxin may, with tolerable confidence, be expected to prevent the occurrence of such changes and disturbances, but it cannot cure them. It is unreasonable, therefore, to look for any marked improvement from the use of the serum, when the presence of albuminuria, cardiac weakness, or broncho-pneumonia, shows that vital parts of the organism are already, as it were, in the occupation

of the enemy, and when other pathogenic microbes have joined their forces to those of Löffler's bacillus.

Nor must it be imagined that the antitoxin is an unfailing specific. All that Behring himself claims for it is stated in the following sentences, which I translate from an article by him recently published in the *Zukunft*:—"I am now definitely of opinion that under suitable treatment with my remedy the mortality from diphtheria may be reduced under 5 per cent. if the serum be used in good time—that is, before the third day of illness. There should be no difficulty about this if care be taken that the remedy is everywhere at hand. There are also sufficient reports to show that the serum may be used with success even after the third day; but it cannot be too often repeated that this can only be the case when a multiple of the ordinary curative dose is given, when the danger to life is due to the diphtheritic process, not to infection with other matters, and when further immediate danger from obstruction of the respiratory passages is relieved by tracheotomy or intubation." This clearly defines the present position of the question as to what antitoxin can, and what it cannot do, and there for the present I leave it.

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That costly but useful body, the General Medical Council, got through the business it had to do in its recent session with less talk than usual. As a rule, its proceedings read rather like an understudy of what Carlyle called the "Great Palaver House" at Westminster, but this time no complaint could be made against it on that score. It purged the professional fold of one or two notorious black sheep; it recommended the report of the Pharmacopœia Committee, which had recommended among other things that Professor Atfield should be the editor of the new Pharmacopœia, with the snug little honorarium of £1,250; that the Pharmaceutical Society should be invited to assist in the compilation of that work; and that a Consultative Committee, consisting of the President, Sir Dyce Duckworth, Dr. Leech, and Mr. Carter, should be appointed to confer with the editor. It was thought that the

work should not be so much in the hands of mere pharmaceutical experts, and that the therapeutical element should be more prominent than it had hitherto been; the salary proposed to be paid to the editor was considered to be somewhat excessive; and the composition of the Consultative Committee was objected to. The part of the Council's deliberations, however, which has excited most general interest is the decision that the diplomas of education and examination in midwifery issued by various societies were "colourable imitations" of diplomas conferring a legal right to admission to the *Medical Register*, and that the issue of such documents by registered practitioners would in future be regarded as "conduct infamous in a professional respect." The Council further expressly stated that the form of certificate granted to midwives by the Obstetrical Society of London came within the scope of this decision. This decision is a bitter pill, which the Obstetrical Society must swallow with the best grace it can command; the operation will not be made more agreeable by the fact that it is watched with interest, not unmixed with gratification, by Dr. Rentoul and his companions in the Anti-midwife Crusade.

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Dr. Wilks is always delightful reading: he always has something to say, and in his manner of saying it he fulfils the Horatian precept of mingling the agreeable with the useful. In his address entitled "Stray Thoughts on Some Medical Subjects," published in the *Lancet* of November 24th, he discourses in the easy tone of a philosophic observer who has seen some revolutions of thought and many changes of fashion in the world of medicine, and surveys them all from the wide outlook of half-a-century's experience. He accepts as a truth all the attested facts in reference to germs, but thinks the doctrine has been pushed too far by enthusiasts, and that in some points it clashes with clinical observation. We greatly lack information with respect to the natural history of bacteria, and, indeed, of all parasites. Do they run a course of their own, and then die? Dr. Wilks once asked the late Dr. Cobbold what was the natural age of a hydatid and a tapeworm, but

could get no answer from the helminthological oracle. Dr. Wilks is sceptical as to the parasitic theory of cancer. In spite of the discovery of microbes, he still thinks the great work of the practitioner, as well as of the pathologist, is to endeavour to trace out the various deleterious conditions surrounding us which tend to our impoverishment and degeneration. There is, in his opinion, no *a priori* reason why the life of man should not be prolonged considerably beyond its present average limits.

In connection with this point, the following passage is interesting:—"In reading of the great ages assigned to the early dwellers upon earth, as given in the Bible, it has never seemed to me an impossibility or an absurdity to suppose that human beings could reach a greater age than they do at the present day, and the Scriptural account gives no contradiction to such a view. There is nothing in the history or Jewish legend contradictory to the different stages of growth which I have mentioned; in fact, so far as the very brief account allows us to judge, it is quite in accord with what Flourens has taught. In a short-lived animal like the dog maturity is reached when the longer-lived man would be in his cradle. Now the proportion is still kept with the antediluvian. Were it recorded that the early dwellers on the earth reached their prime at the same time as we do at the present era, and then had lived a thousand years afterwards, I should have put the story aside as opposed to our knowledge of animal life; but it is very remarkable that the natural proportional stages of growth are preserved, the development; of course, being somewhat slower. The principal facts mentioned in the lives of the Patriarchs, calculated to guide us, are the time of their marriage and the birth of their first child. Now if this be taken as the commencement of manhood, we see how this term is delayed, so that its proportion to the whole duration of life is preserved. Thus Seth lived to be 912 years of age, and his first child, Enos, was born when he was 105; Enos lived to be about the same age, and his first child was born when he was 90. Methuselah lived to be 969 years, and his first child, Lamech, was born when he was 187

years old. Lamech lived to be 777, and begat his son Noah when he was 182. Noah lived to be 950, and it is said that his three sons were born to him when he was about 300. After the Deluge, the duration of life was diminished by half, and the time of marriage was much earlier. Sarah was 90, and her husband, Abraham, about 100, when Isaac was born, Sarah having come to the menopause. Thus, it seems that we can take no exception to the Biblical account of the great age of man on the score of incongruity in his manner of growth, seeing that all the proportional stages of life were preserved until death arrived."

Dr. Wilks also discourses pleasantly and instructively on the use of drugs, and vindicates himself from the charge of therapeutic scepticism which, he says, has been brought against him. The whole address is well worth reading.

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In Mr. Rudolph Lehmann's *Reminiscences of an Artist*, just published, I find the following passage. Speaking of the late Sir Andrew Clark, Mr. Lehmann says: "His secret was his sincere belief in himself, the confidence with which he inspired his patients, and his power to convince them of his deep, almost exclusive, interest in the case before him." Of course, I take it that even one of the "profane" does not think that this is the *whole* secret of a successful practitioner of the healing art. To have any real success as a doctor, a man must have *matter* in him as well as manner; but there can be no doubt that the power of inspiring confidence, although it cannot take the place of professional knowledge, is just as indispensable. One of the most justly celebrated and successful physicians of our own time used to say that a man may be suave to the extent of soapiness or brusque to bearishness, but he must give his patient the impression that he is thoroughly in earnest and anxious to do him good. This is the secret of a good manner in medicine.

Public Health.

BOARD SCHOOLS AND INFECTIOUS DISEASES.

AMONG the many points connected with the administration of Public Elementary Schools which have been under discussion of late, there is one which has special interest for the medical profession, and upon which recent observations have thrown much additional light. Whatever system may be adopted, compulsory education requires the aggregation of children in large numbers, in a confined space, and for several hours in each day. This necessary condition at once introduces a variety of considerations which have an important practical bearing upon questions of public health. One of these is the relation, possible or actual, between such aggregation and the diffusion of infectious diseases.

The conditions of attendance at schools of this class may be thought of as offering facilities for direct infection of one child by another, simply by close proximity in a limited atmosphere; or infection may be carried to or from school by children themselves unaffected by it. Apart from mere convéction, however, there is the possibility, of which the investigations of the Medical Department of the Local Government Board have afforded sufficient proof, that as regards diphtheria, at all events, school aggregation may be conducive to an intensification of the poison, from a mild and indeed unrecognisable form into one which is virulent and fatal. In this connection, too, we are reminded of the slight and indefinite forms of illness which have frequently been observed among children, often in such numbers as to affect seriously the attendance at school, during epidemics of influenza, and, on a smaller scale, during outbreaks of typhus and pneumonia.

Against these dangers the defence is two-fold: the exclusion of infected or infection-bearing children from school, and the adoption of a high standard of sanitary construction and management, including air-space and ventilation. The former is dependent upon the co-operation of parents, school authorities, medical practitioners, and medical officers of health, with or without the assistance of systematic and compulsory notification of infectious diseases. This is, of

course, the first and most important line of defence against school infection, and the time has now come when its efficiency may fairly be tested by the accumulated experience of recent years.

It needs little consideration to realize some of the formidable difficulties which must attend any complete "quarantine" of this kind. Most of the principal infectious diseases attack children more readily than adults, so that a school population may be regarded as one of high, if not maximum, susceptibility. Most of them recur epidemically every year or two, and largely among children of school age. Then again all, or nearly all, are capable of assuming a form so mild as to render diagnosis extremely difficult and uncertain. This is especially familiar in connection with small-pox, scarlet fever and diphtheria, and it is not too much to say that in these days of comparatively efficient means of isolation and disinfection there is more danger to the public from slight non-typical attacks of these maladies, where no diagnosis is made, no medical advice sought, no risk apprehended, and no precautions taken, than from severe and fatal attacks, the very virulence of which leads to their speedy recognition and isolation. Some zymotics—scarlet fever, for example—are followed by a long period of convalescence, or, rather, by a long stage in which infectiousness remains, but all appearance of constitutional symptoms has ceased, and the patient and his friends are disposed to be sceptical as to his unfitness to resume the ordinary duties of life. In the social strata from which Board School children are drawn, medical supervision does not usually extend to these later stages of convalescence, and in measles, whooping-cough, and the milder forms of scarlet fever, it is comparatively seldom that a doctor is called in at any stage. The home isolation and the precautions as regards school are then merely such as the parents voluntarily adopt, unless the sanitary authorities intervene. Lastly, there is the unpleasant probability that where other interests render quarantine inconvenient, a certain proportion of persons are tempted to evade or relax it. Neither parents nor school officers are free from suspicion in this respect, when isolation becomes irksome, or when a Government grant depends upon the muster and efficiency at an examination on a given date.

Compulsory notification is an invaluable, but by no means complete, safeguard. It does not yet extend to all localities, and it applies only to diagnosed cases of certain specified diseases. It scarcely touches the difficulty as to the obscure types of diphtheria and scarlet fever, or even of small-pox, and at best there is some interval between the beginning

of infectiousness and the notification of the case, during which there is no assurance of isolation and quarantine.

For many reasons, therefore, it seems scarcely possible to maintain a complete barrier between schools and infected homes, although much may be done to exclude the more direct and individually dangerous sources of infection. Moreover, a reasonable degree of efficiency of quarantine is by no means equally easy of attainment in the several zymotic diseases of childhood; and while enquiring into the actual results, we must not lose sight of the periodic and other variations in the quality and quantity of these diseases, which occur independently of school influences.

It is a matter of common knowledge that elementary schools are, not infrequently, found to act as foci of infection, whether of scarlet fever, measles, whooping-cough, chicken-pox, mumps, or diphtheria. Where vaccination is neglected, small-pox has sometimes shown itself capable of spreading in schools. So, too, with influenza, in some recent local epidemics; and outbreaks of less definite type, such as "sore throat" or "febricula," are occasionally met with in particular schools. But apart from anything which would be regarded as a school epidemic, the local reports of medical officers of health furnish abundant instances in which a comparison of the dates and antecedents of attack in notified cases of scarlet fever leads to a careful inspection of the scholars still in attendance, with the result that one or more are found to be suffering from a mild and often unsuspected attack of the disease, characterized, perhaps, merely by slight desquamation, which had escaped notice, or had been attributed by the mother to other causes. Diphtheria affords many examples of like kind. One of the prominent advantages of compulsory notification is that it gives the medical officer of health a clue to the precise localities, schools included, where unreported cases of the notified disease should be looked for.

Sanitary authorities have power under the Education Code to require the closure of public elementary schools for a specified period, when such a course seems to them to be desirable for the prevention of epidemics; or they may, as an alternative, require the exclusion of individuals, or the dispersion of particular classes in the school. The practice with regard to this varies considerably in different districts, but it is the general opinion among medical officers of health that the advantage to be gained from closure is greatest in scattered rural areas, where the school is the only meeting-place of children from different villages, whereas in towns they herd together in crowded streets and alleys, even if banished from school. And, further, in large urban centres, where measles

becomes epidemic about every other year, if not oftener, repeated closure is likely to interfere seriously with the continuity and efficiency of school work. Notifiable diseases can usually be held in check without closure, by watchfulness on the part of the teachers and efficient medical supervision, coupled, of course, with strict exclusion of children living in infected houses. Where an epidemic makes such headway as materially to lessen the roll of attendance, the school authorities are more than willing, in their own financial interest, that the order for closure should be issued. A mistake that is frequently made is to close for too short a period. For obvious reasons, the interval should at the least considerably exceed the incubation period of the disease which is epidemic, so that for measles a fortnight would be insufficient, although much is to be gained by even a brief suspension of school-aggregation.

There is evidence of another kind, which points to a residuum of infection in schools in spite of the most modern advances in the way of notification and isolation. In his recent presidential address to the Epidemiological Society, Mr. Shirley Murphy dealt with the statistics of scarlet fever in London in 1892-3-4, and showed that the commencement of holidays was attended by a diminution in the number of attacks, and the resumption of work by an increase, the coincidences in point of time being close when allowance was made for the period of incubation and the delay in notification. The significance of these figures is emphasised by the fact that the fall and rise, which coincide with the beginning and end of the holidays, affect children at school ages in a disproportionate degree. Mr. Murphy brought forward other observations, based on the notification of scarlet fever in Brighton and Stockholm, all pointing to the conclusion that the prevalence of scarlet fever is liable to be effected by holidays in the same way as in London. It has been found, too, that in Nottingham there are fewer attacks of scarlet fever on Wednesday than on any other day of the week, a peculiarity which seems to suggest a minimum risk of infection on Sunday. Körösi at Buda-Pesth has been able to trace statistically the influence of holidays upon the prevalence of measles. The success which is claimed for the attempts to control the spread of measles by more stringent medical supervision of elementary schools, especially in towns where measles is subject to compulsory notification, tends to show that under ordinary conditions infection is disseminated in schools.

The notification statistics of diphtheria, both in London and in Brighton, yielded similar indications of the effect of holidays in lessening the number of reported cases. This is, of course, in harmony with the analysis which Mr. Shirley

Murphy made not long ago of the age-distribution of the fatal attacks recorded in London during the last three decades. He then demonstrated that comparing the ten years 1871-80, with the previous decennium, the diphtheria death-rate fell, but less at ages from three to ten years than at ages under three or over ten. Comparison of 1881-90 with 1871-80 showed an increase at all ages, most marked at the 3 to 10 years age-period. This general indication that the ominous increase in fatal diphtheria has taken place mainly among children of school age is borne out by the mortality statistics of 1891-2-3, which reveal a further increase in the diphtheria death-rate in London, and the usual disproportionate share in that increase on the part of persons aged three to ten years. When comparison was made between the two periods 1891-3 and 1861-70 it was found that the diphtheria mortality had risen 196 per cent., taking all ages together; but that while the increase was only 53 per cent. at ages over ten years, and 173 per cent. under three years, it was no less than 309 per cent. at ages from three to ten. To use Mr. Murphy's words, "There is, therefore, at the present time an increased tendency of children at from three to ten years to die from diphtheria than in earlier times, and this increased tendency was first manifested somewhere between the two periods 1861-70 and 1871-80." He goes on to show that a closer examination points to the year 1871 as that in which this increased incidence first became conspicuous, that year being, as it happened, the first in which the Elementary Education Act came into operation.

It would be difficult to exaggerate the importance of the evidence which Mr. Murphy has furnished, and as the question affects provincial towns equally with the Metropolis, observations of like kind ought soon to be forthcoming from many quarters. The suggestion is, of course, that apart from epidemic incidence upon one or other school, and apart, also, from the enormously increased difficulty of dealing with non-notifiable diseases, for which little real isolation is available, there is sufficient leakage to make school influence perceptible in the records of attacks and deaths from diphtheria and scarlet fever. This leads at once to a number of practical questions, which it will be more convenient to deal with on another occasion; but, meanwhile, it is clear that part of the price which has to be paid for the inestimable boon of universal elementary education is an increased facility for the diffusion of certain infectious diseases, a facility which has not been entirely neutralised by all the precautions which the several authorities concerned have been able to bring to bear, even with the assistance of compulsory notification.

A Medico-Literary Causerie.

MEDICINE AND MEDICAL PRACTITIONERS IN ANCIENT ROME.

UNTIL the later days of the Republic the Romans seem to have been without doctors of any kind; indeed, Pliny makes it a boast that his countrymen had done without them for six hundred years. Up to the disruption of the Empire they had no regular practitioners in the modern sense of the term; any who liked could practise the healing art without let or hindrance as far as the State was concerned, and without any kind of guarantee of his fitness to treat the sick being required by the public authorities. In the older days of the Republic, before Greek culture had leavened the native density of the Roman mind, the master of the house seems to have undertaken the care of the health of his household in well-to-do families; for the people at large, there was no resource in illness but the *vis medicatrix Naturæ*, helped or hindered, as the case might be, by prayers and spells.

Of ordinary family practice in the third century before Christ we get a glimpse from the *De Re Rustica* of the elder Cato. That typical "antique Roman" had, as might be expected, very definite notions of his own as to the treatment of diseases. His *materia medica* was simple and inexpensive, consisting almost entirely of cabbage. This useful vegetable, prepared in various ways, was given internally and applied externally, and was, in short, looked upon by the stern old Censor as the "soveran'st thing on earth" for all bodily ills; cabbage, he tells, *est ad omnes res salubre*. Pleurisy or polypi, fistulæ or fevers, cancer or consumption—nothing could resist the healing power of cabbage. If a bone were dislocated, all you had to do was to clap on a cabbage poultice, and it forthwith slipped back into its place—*cito sanum fiet*. If the injury did not give way to this potent remedy—and, alas! even the most approved specific sometimes fails us in the hour of need—the aid of magic must be called in. A little conjuring with a green twig over the injured part, accompanied by the recitation of the following incantation:—*Daries, dardaries, astataries, dissunapiter*; reinforced, if need were, by another spell of mickle might, such as, *Huat, hanat huat*

ista pista sista, domiabo damnaustra—would bring the naughty bone to its senses.

Cato naturally had no theories about disease, except such as sprang from mere superstition; he was a "practical man," with all the ignorance and obstinacy which belong to the type. He despised and hated the Greeks with all the force of his *atrox animus*, even more than the sturdy John Bulls of a bygone day detested the French, and he dreaded the effect of the introduction of their culture and "kickshaws"—intellectual, artistic, and medicinal—as tending to corrupt the morals of his countrymen and to enervate the virility of the national character. In writing to his son Marcus, he warns him against the Greeks and their arts and graces, and in particular against their physicians. The fine old crusted Tory says that if Greek medicine once gets itself established in Rome, the end is not far off, for that most wicked race "has sworn to exterminate the Romans by its medicine."

Cato, however, was no more successful in stemming the tide of Greek invasion than Mrs. Partington was in her unequal conflict with the Atlantic Ocean. Greek physicians came to Rome as soon as the market was open to their skill, and when they came they conquered. The Romans themselves had little taste for the practice of the healing art; indeed, they looked upon it as beneath their dignity. Pliny tells us that the profession of medicine was the only one of the Greek arts to which the *Romana gravitas* had not yet stooped. Such true-born Romans as did condescend to practise as doctors, disguised their nationality, as far as possible, by taking Greek names and speaking and writing books in Greek; in the words of Pliny, they were "deserters to the Greeks."

The part which Greek practitioners of medicine played in the later days of the Republic, and thence onwards to the fall of the Roman Empire, is described with adequate learning, set off by considerable grace of literary form, by M. Maurice Albert, in his recently-published work, *Les Médecins Grecs à Rome* (Paris: Hachette et Cie., 1894).

The earliest pioneer of Greek medicine who found his way to Italy was Archagatos, a citizen of Sparta, who settled in Rome in B.C. 219. He had, as may be imagined, many prejudices to overcome, but he succeeded so well that the Senate conferred on him the privileges of a Roman citizen, and a surgery and dispensary were fitted up for him at the public expense in one of the most-frequented streets of the city, close to the Forum. Here he treated all who came to him, prescribing and operating in public, like an itinerant quack at a fair. His surgical skill gained for him the surname of "*Vulnerarius*," but his ways were so rough that

after a time the less flattering title of "*Carnifex*" was conferred upon him, and he was accused of extorting money from patients whom he was paid out of the public purse to treat. Greek medicine gained a firm footing in Rome with the coming of Asclepiades of Bithynia in the early part of the first century B.C. This great man was a philosopher as well as a physician, and until the end of his long life he held a leading position not only among his professional brethren, but in the social life of Rome. He was the friend of Cicero, Mark Antony, and other political leaders; he taught Lucretius the Epicurean system of philosophy, which the poet "married to immortal verse"; he was the trusted adviser of all sorts and conditions of men—and, it may be added, of women, for he was a special favourite of the ladies, with whom his charm of manner, his dislike of violent remedies, and, scandal whispered, his faith in the therapeutic virtues of wine (which, under the stern *régime* of the Republic, women were forbidden to drink) made him very popular. Asclepiades believed more in hygiene than in physic; he was a great advocate of hydrotherapy, and it was his influence which made the Romans such devotees of the hot bath, massage, and the *cura cutis* which was almost a passion with them.

Space will not allow any discussion of the medical doctrines of Asclepiades, which were founded on the philosophic teaching of Epicurus, nor of the various systems which followed his. Nothing more than a rapid review of the most prominent figures in the crowd of practitioners who came after him can be given here.

After the exit of Asclepiades from the professional stage, his place was taken by his pupil Themison, whose name is probably best known to posterity by the deadliness of therapeutic marksmanship with which he is credited by Juvenal—*Quot Themison agros autumnno occideret uno*. Themison's system had a sweet simplicity, which must have saved a world of trouble both in diagnosis and in treatment. With the causes of disease he concerned himself not at all. Any illness accompanied by inflammatory symptoms was called *Strictum*, and had to be treated antiphlogistically; asthenic conditions, intestinal fluxes, hæmorrhages, were lumped together under the head of *Fluens*, and treated by astringents and tonics; anything that could not be squeezed into either of these categories was comfortably disposed of in a convenient class, *Mixtum*, and treated simultaneously or alternately by antiphlogistics and by tonics.

Then there were Craterus, whom Horace cites as a final authority on heart disease; Cleanthes, who stitched up the

gash which the younger Cato had made in his abdomen by falling on his sword; Antistius, physician to Julius Cæsar, who examined the Dictator's body after it had been "marred by traitors," and of the many wounds on it found only one mortal; Alexion, whose death was deplored by Cicero as an irreparable personal loss; and Cleophrantus, spoken of by the same writer as *medicus suavis*, and whom one may imagine to have been the Sir Andrew Clark of the great orator of antiquity.

Then came the Empire, and with it began a new era for medical practitioners. Augustus was physically a weak vessel, and was in the hands of doctors during the greater part of his life. His household swarmed with practitioners and parasites of the healing art—*medici servi*, who were slaves; *superpositi medicorum*, who were overseers of those just mentioned and of the assistants or *adjutores valetudinarii*, the *unguentarii*, *herbarii*, etc., including female healers (*medicæ*) and midwives. Augustus's best-known physician was Antonius Musa, who was fortunate enough to cure the Emperor of what was believed to be hepatitis by cold bathing, and who was in consequence loaded with honours. Musa never lost the confidence of his Imperial patient, although the death of the young Marcellus was ascribed to his treatment; he was also the physician and friend of Agrippa, Mæcenas, and other distinguished persons, and got what in modern times would be considered a highly unprofessional advertisement from Horace, who seems to have been the most believing and most obedient of patients.

Tiberius was a man of robust constitution, who was never ill, and accordingly could laugh at doctors. Charicles, who was his physician *en titre*, was valued by him for his powers of conversation, and was told to keep his physic for fools. The Emperor's subjects, however, do not appear to have shared his aversion for medicine and its professors. During his reign some fortunes by the side of which those left by Gull and Clark seem almost insignificant were accumulated by Crinas, Alcon, Stertinius Xenophon, and others.

Of later practitioners may be mentioned Thessalos, who flourished under Nero, and called himself *Iatronices*, or "Conqueror of Doctors." This modest person's system seems to have consisted in a further simplification of Themison's *strictum* and *fluens* theory. Disease, according to this learned Theban, either astringes or relaxes the organs; treat by contraries, and you have the whole art and mystery of medicine in a nutshell. The method is almost as simple as that of Sangredo. One is, therefore, not surprised to learn that Thessalos thought six months sufficient for the acquisition

of all that need be known in medicine, and one finds no difficulty in believing that his pupils deserved the name of "Thessalos's asses," by which they were designated.

In the reign of Nero, the Emperor's physician first came to be known by the style and title of "Archiater." As borne by Andromachus, under Nero, and after him by Demetrius and Magnus, under Antoninus Pius and Marcus Aurelius, the title meant nothing more than that of "Physician to the Queen" at the present day. Afterwards, under Alexander Severus and his successors, the title of "Archiater" carried with it certain important official and administrative functions.

Galen, who settled in Rome in the second year of the reign of Marcus Aurelius, would need a volume to himself. He was a man of the widest culture, and of more than German industry. He is said to have written some five hundred works on medical subjects, to say nothing of a trifle of two hundred treatises on other subjects. Besides this, he found time for a large practice, in which his chief delight would seem to have been in what would nowadays be called "scoring off" his professional brethren. Every doctor dispensed his own medicines in those days; but it is with something of a shock that we learn that Galen took care that his patients should know that he "put up" all his physic with his own hands, and that his materials were always of special quality.

(To be continued.)

Reviews of Books.

Fibroid Diseases of the Lung, including Fibroid Phthisis.—

BY SIR ANDREW CLARK, BART., M.D., LL.D., F.R.S., late President of the Royal College of Physicians, London, etc.; W. G. HADLEY, M.D. (DUB.), M.R.C.P., Assistant-Physician to the London Hospital, etc.; and ARNOLD CHAPLIN, M.D. (CANTAB.), M.R.C.P., Assistant-Physician to the City of London Hospital for Diseases of the Chest, etc. With tables and eight plates in colours. London: Charles Griffin & Company, Limited. 1894. Price one guinea net.

THE death of Sir Andrew Clark removed from the ranks of British medicine one who had attained to the highest position through sheer force of character and genius. It might truthfully be said of him "*felix opportunitate mortis*," for he died, as he wished to die, in the plenitude of his powers and in the midst of his beneficent labours. We would, however, here especially recall the fact that in him we have lost one whose gifts as a teacher and an expounder of the facts of bedside observations were peculiarly conspicuous. He possessed, too, in an eminent degree the logical faculty and the art of terse and vigorous expression of ideas, which contributed in no small measure to his success as a teacher. Nor did he fail to keep abreast of advancing knowledge in pathology and medicine, in spite of the demands on his time created by the eminent position which he held. He was ever ready to discuss eagerly and strenuously the "modern views" upon the subjects which most attracted him; whilst his contributions to medical societies were always certain to excite attention and stimulate debate. His contributions to literature, however, were not numerous, and the medical historian of the future, relying on these alone, unmindful or ignorant of the personal influence Sir Andrew Clark exercised, might have little before him to explain his eminence amongst the physicians of the latter half of the nineteenth century. It was, then, with peculiar pleasure that those who knew his worth learnt that he was engaged in the preparation of a work upon a subject which he had made his own—a work which was on the eve of publication when death called him away. Associated with him in the preparation of the work

were his friends and former pupils, Drs. Hedley and Chaplin, who have faithfully carried out his wishes in its production.

A monograph upon fibroid phthisis—a term which he himself introduced—from the pen of Sir Andrew Clark could not fail to be both valuable and interesting. He had long held, and had often expressed, very definite views on the subject—views which may be summarised as consisting in a belief in the existence of a chronic progressive disease of the lung, sometimes, but rarely, accompanied by ulceration and caseation, mostly accompanied by bronchiectasis (often with cavities arising therefrom), and dependent upon fibroid change in the lung and pleura. He contended from the first that this condition arose independently of tubercle, with which, however, it might in time come to be complicated; and it was upon this point alone that any real differences of opinion were expressed. It may be remarked in this connection that when Dr. Wilson Fox made his memorable communication to the Pathological Society in 1873, upon the relation between tubercle and pulmonary phthisis—a demonstration of the unity of phthisis anticipating the final clinching of that doctrine by the discovery of the bacillus tuberculosis nine years later—Dr. Moxon, in his epigrammatic way, said that “Fibroid phthisis is only phthisis with its age forgotten.” Dr. Wilson Fox himself endorsed this view, so assured was he of the process of total fibroid transformation of tuberculous deposits. Nevertheless, we make bold to say that there are few, if any, pathologists of the present day who would not recognize that Sir Andrew Clark’s position was, after all, the sounder one; and if there be any such, a study of his posthumous monograph will assuredly lead them to concur with him in his contention. At the same time, the use of the term “phthisis”—doubtless, as he shows in the second chapter, logically justified for the class of disease that is here described, is likely to mislead and confuse,* and the more generic term “Fibroid disease of the lung,” cumbrous as it is, is almost preferable. The first chapter is devoted to a historical account of the literature of the subject from the time of Bayle (1810)—who amongst his varieties of phthisis especially names one, “*phthisie avec mélanose*,” that accords with the condition of fibroid lung—until the present time. There is no important contribution omitted from this review, which demonstrates how wide is the room for divergent views even upon such a limited field as this special point in pulmonary pathology. For, even if we exclude from consideration altogether the contention that

* Many a case of chronic tuberculous disease has been recorded as “fibroid phthisis,” in total misconception of the meaning attached by Sir A. Clark to the term.

"fibroid" means "tuberculous," we yet find some writers comparing the affection to cirrhosis of the liver, and regarding it as a local disease entirely; others viewing it as inflammatory; and yet others as an expression of a constitutional tendency to fibroid degeneration, shared by the lungs in common with other organs—a fibroid diathesis in short. This last-named doctrine was initiated by Dr. Handfield Jones in an admirable article which he contributed to the once famous *British and Foreign Medico-Chirurgical Review*. It was practically adopted by Dr. H. G. Sutton, and one finds its influence upon the thoughts of Sir A. Clark. Indeed, his use of the term "fibroid" as contrasted with "tuberculous" proves that he deemed the existence of an underlying pathological condition (or diathesis) to be just as necessary for the one as for the other form of "phthisis." Nor has the position he assumed been affected by the admission of the bacillary nature of tuberculosis; if anything, it has been strengthened thereby, since the criterion of tubercle is no longer an anatomical one, and there is scope enough for argument upon anatomical changes, which admit of varied interpretations. The summary tabulation of the leading features of the larger group of chronic tuberculous phthisis and the smaller group of fibroid phthisis, which is given in the second chapter, presents in all points a sharp contrast—a contrast not limited to the mere question of relative chronicity, but carried through each of the steps and stages of the two classes of disease.

The third and fourth chapters contain a full description of the anatomical and clinical characters of the disease. The anatomical changes are dealt with first, and are illustrated by a series of artistic coloured drawings which are distributed throughout the book. We are told in the preface that it was originally intended to produce an atlas of illustrations; but the form of work ultimately adopted will be of more value than the explanatory text of an atlas of morbid anatomy. At the same time, one misses any references to the plates in the text of the book—a grave omission. The morbid anatomy of an advanced case of this disease is striking and characteristic. The contracted lung, covered by a dense fibrous layer of thickened pleura, the density and toughness of the pulmonary substance, with more or less entire replacement of the alveolar tissue by fibrous bands, traversed by bronchi dilated into sacs or cylinders of the size of the little finger; and, in sharp contrast to this extreme conversion, the hyper-trophied and emphysematous character of the other lung and of the uninvolved portion of the affected one. And another point of difference is that "fibroid disease" attacks

mostly the middle and lower parts of the lung. In carefully reading this chapter, which is supplemented by a full account of the *post-mortem* examination of certain selected cases, the regret arises that Sir Andrew Clark had not more particularly dwelt upon those forms of fibrosis which do not eventuate in the typical "fibroid phthisis." The condition sometimes described as chronic interstitial pneumonia, the results of long-standing bronchitis, the effects attributed to inhalation of dust, those attributed to syphilis, each present characters which more or less depart from the generic type. It is true that at the opening of the fourth chapter, where the question of etiology is discussed, reference is made to the above and several other antecedents of fibroid disease. Of these, the most important are "broncho-pneumonia," "acute croupous pneumonia," and "pleurisy." The liability for the first-named to pass into the chronic fibroid state is said to be greater than might have been imagined, and its frequency is borne out in the table of cases given in a subsequent part of the volume. On mere *a priori* grounds, we incline to a belief that lobar pneumonia and pleurisy play a larger part as antecedents of "fibroid phthisis" than is here admitted, even in cases where a history of whooping cough or measles suggests broncho-pneumonia as the underlying cause. We feel, however, that in justice to the authors we cannot do better than quote the succinct summary which is given of the etiological relationships of the disease. It runs:—

"1. There is reason to believe that pure fibroid disease of the lung depends, in common with like affections of other organs, upon a vulnerability or susceptibility of the organism to take on a fibroid process, when the particular organ to become so affected has, by some means or other, its vitality lowered and its nutrition altered. This vulnerability is termed the 'Fibroid Diathesis.'

"2. The causes which operate in producing this lowering of vitality, and alteration of nutrition, are chiefly those diseases which we have discussed and enumerated.

"3. Of these diseases the most common are broncho-pneumonia, acute pneumonia, and bronchitis.

"4. The abuse of alcohol may be said to exert some influence over the production of the fibroid state.

"5. Some of these diseases set going the process in early life, while others are responsible for its onset in the later periods. Thus those which give rise to fibroid disease in early life are broncho-pneumonia, acute croupous pneumonia,

collapse of the lung, and pleurisy. Those giving rise to it later in life are bronchitis, bronchiectasis, traumatic causes, alcoholic abuse, syphilis, and sometimes acute pneumonia and pleurisy, the two last acting either in early or late life" (p. 88).

The volume concludes with the paper read before the Clinical Society by Sir Andrew Clark in 1868—a paper which excited great interest at the time, and which may be said to constitute a landmark in the history of the subject. In it he formulated for the first time the points of which his more mature experience proved to him the general accuracy; and, had he lived, it would have gratified him to find that there is less divergence of view on the subject now than when he read that paper. There is little doubt that his own vivid and cogent teaching has gone far to influence opinion upon the subject in the direction which he pointed out. Hence it is that the monograph before us, so far as it goes—for it can hardly be said to enter fully into all branches of the subject—will do much to keep fresh the memory of one of the ablest physicians and clinical teachers of our day, whose enthusiastic temperament and literary gifts find characteristic and abiding expression in its pages.

The Senile Heart: Its Symptoms, Sequelæ, and Treatment.

By GEORGE WILLIAM BALFOUR, M.D. (St. And.), LL.D. (Edin.), F.R.C.P.E., F.R.S.E., Consulting Physician to the Royal Infirmary, &c., Edinburgh. London: Adam & Charles Black, 1894. Price, 5s.

THE argument of this book is very clearly set forth in the preface. Few, says Dr. Balfour, realise that the loss of elasticity and other changes which the arterial system undergoes during our progress from youth to age cause a hindrance to the onward flow of the blood which has to be compensated. In late life, and without any history of previous disease, the heart is often found to be enlarged. Owing to the changes in the vascular system, no heart reaches advanced age without some degree of enlargement, of slow growth, giving rise to no symptoms, and only found when looked for. After middle life, when distressing symptoms attract attention to the heart, there is discoverable in by far the larger proportion of cases no history of any antecedent myocarditis or other disease; but the symptoms are entirely due to disturbance of the nutrition or of the innervation of the myocardium interfering with and modifying the normal senile enlargement of the heart.

The twelve chapters which the book contains present a full development of these views of the senile heart. The first of them consists of a short essay on senility. With a very graphic sketch of Tithonus is cleverly worked in an account of the great physiological and pathological facts that underlie the withering and shrinking of the tissues, the hardening of the arterial walls and the enlargement of the heart, which constitute the anatomical changes of senility. The central organ of the circulation resents and resists the processes of ageing. As the elasticity of the vessel is undone, the heart silently compensates the disability, and in carrying on the circulation it is preserving the life, and maintaining—in some measure at least—the vigour of other organs besides itself. How long the balance might be preserved, and life endure, under this provision against death from senility, we cannot say. As a matter of fact, it is disturbed by one or other of the endless circumstances which surround the body and embarrass the hypertrophied myocardium—circumstances relating to food and nutrition generally, to exertion, to such poisons as alcohol and tobacco, and to emotional disturbance. Then there come, slowly or suddenly, the symptoms of the senile heart—præcordial anxiety, pain, breathlessness, irregularity, hurry or slowing, in different instances, of the rate, and the rest.

One of the most instructive chapters is devoted to the concomitants and sequelæ of the senile heart, including gout. Dr. Balfour traces very clearly in the slow functional disorder of the blood and circulation which accompanies age the beginnings of the gouty diathesis. Thus the gouty and the senile heart may be associated, and the two terms are sometimes used synonymously. Similarly, there is an intimate relation between the senile heart and chronic Bright's disease. In this part of the book, as indeed elsewhere, we are struck by the remarkable combination of breadth and exactness of view which is displayed, and by Dr. Balfour's wide reading in the subject.

The last four chapters of the work are devoted to the great practical subjects of treatment and prognosis. It is not safe to say that the author is here at his best: he is so good from beginning to end. But the practitioner, who must have so large an opportunity of applying the principles of therapeutics which Dr. Balfour deduces from the preceding chapters, will thank him for the many practical hints which he gives in connection with the management of the heart in aged persons. We heartily recommend this work, which is altogether worthy of its distinguished author, and which ought to be in the hands of every member of the profession.

Uric Acid as a Factor in the Causation of Disease. By ALEXANDER HAIG, M.A., M.D. (Oxon.), F.R.C.P., &c. &c. 2nd edition. London: J. & A. Churchill. 1894. Price 10s. 6d.

THE author's views on the subject of uric acid, and the relation which this substance bears, in his opinion, to many and varied morbid conditions, are well known to the profession at large. It must be remembered that a good many of the author's experiments have been carried on in the laboratory of his own protoplasm, and that, consequently, a certain amount of allowance must be made before accepting these facts in their entirety. When it is also remembered how complex are the chemical changes which go on in the nutrition of the body, how easily cause and effect are interchanged, and how much depends on peculiarities and idiosyncrasies of different individuals, we think we must wait for more facts before we regard uric acid quite in the same light as the author. We can speak with unstinted praise of his great ingenuity in dealing with his subject, and of the amount of work and observation he has brought to bear on it. The most widely different diseases at once range themselves in an orderly group when regarded from such a standpoint as Dr. Haig's, and uric acid has a fresh set of enormities laid at its door in the present edition of the work.

The very fact that so many morbid processes are claimed in this pathology is enough to make one a little suspicious, and to suggest that it is possible that the part played by uric acid may, after all, be but secondary to more complex changes, or that it is but symptomatic of the wear and tear produced by such processes. We have again studied carefully the items of the author's dietary, which is stated to be by no means a starvation one, but we would like to see in subsequent editions of the work some account of the healthy bodily exercise, both as to quality and amount, in which he indulges. This important point, so easily neglected by busy town-dwellers, ought to be most carefully attended to. We have little doubt that, taken in proper amount, along with the regular use of the Turkish bath, healthy life is possible on a much more extended dietary, and that, given a sound body and good emunctories to start with, there may still be "cakes and ale" without the fear of incurring the long list of penalties enumerated in this book.

The Uric Acid Diathesis. Gout, Sand, and Gravel. By Dr. F. LEVISON. Translated from the German, and Edited by LINDLEY SCOTT, M.A., M.D. (Aberdeen). Cassell & Company, London. 1894. Price 3s. 6d.

THE author justly points out that the rapid progress made in

recent years in the study of surgery and infectious diseases has somewhat eclipsed subjects such as the one he deals with in this work. He wisely omits any clinical description of the manifestations of the uric acid diathesis, as the symptoms are described at length in any text-book of medicine. In this way he has been able to devote more space to a full study of the chemistry and physiology of uric acid in the human economy. Previous researches are discriminatingly referred to, and the latest conception on the subject is well brought out. We are very pleased to see that the fullest credit is given to the leading British investigators on the subject. When dealing with prophylaxis and treatment—both of gout and the uric acid diathesis—the author succeeds in maintaining the *juste milieu*, and this portion of the work is of very general practical interest and importance. With regard to food, he holds that a rational mixed diet is the one to be recommended, the important point being the avoidance both of under-feeding and excess, together with the greatest moderation in the use of alcohol. Referring to the much-lauded piperazine, he finds that “it has no action upon the production of uric acid;” in laboratory experiments it had no power to delay the deposition of biurate crystals in serum; clinically its action in gout was absolutely negative; and analysis of the urine showed that it exercised no solvent action. The conclusion is that it appears to act exactly like the alkalies—namely, to change the reaction of the urine. As it is not tolerated by every patient, and does not surpass in its action the cheap and harmless bicarbonate of soda, there is no reason why preference should be given to this expensive drug.

Our countrymen have an unenviable notoriety as sufferers from the uric acid diathesis. Dr. Lindley Scott has done well to introduce this interesting little book to English readers; his translation reads easily, and he has edited the work carefully.

On Chorea and Choreiform Affections. By WILLIAM OSLER, M.D. Pp. 120. London: H. K. Lewis. 1894. Price 5s.

THE clinical material on which this book is based was derived almost exclusively from the wards of the Philadelphia Infirmary for Diseases of the Nervous System. Chorea minor, the disease now universally recognised as chorea, Professor Osler defines to be “an acute disease of childhood, rarely of adults and of the aged, characterised by irregular involuntary movements, a variable amount of psychical disturbance, and associated very often with arthritis and endocarditis. The disease is usually regarded as a neurosis, but the clinical characters of

the severer cases, and the frequent heart and joint implications, have suggested to many recent writers that it may be due to a specific poison." In studying the general ætiology, he finds that the vast majority of the cases occur between the ages of five and fifteen; the disease is decidedly rare in the negro, and also amongst the Indians; whilst as regards the influence of season, Dr. Osler is in entire accord with the conclusions arrived at by Dr. Morris Lewis some two years ago. Psychical influences, such as fright, worry, grief, overwork at school, our author admits as often playing an important part, but imitation, reflex irritation—*e.g.*, from worms and eye-strain—he does not accept as standing in a causal relationship. The association of chorea with rheumatism would appear to be not so close and definite in America as it is with us, but this may be partly owing to the fact that rheumatism is less common there than it is here, some forms—*e.g.*, the subcutaneous fibrous nodules—being evidently quite rare. In his clinical description, Dr. Osler deals separately with mild and severe cases, and with the special form, chorea insaniens, a variety very rarely met with in children. A chapter is given up to a study of the heart both in fatal and in non-fatal cases, and attention is called to the frequency of functional murmurs and the relative infrequency of symptoms referable to the heart. In regard to pathology, he evidently leans to the view that chorea should be classed amongst the infectious disorders; as regards the influence of age, sex, and season, it presents the peculiarities common to infectious disorders; the clinical course of the severer forms is quite characteristic of infection; whilst the endocarditis, the only constant *post-mortem* lesion, is one of the most distinctive lesions of an infectious disease. He does not, however, in the part devoted to treatment, make any suggestions based on this view of the nature of the disease. In an appendix he gives an analysis of seventy-three fatal cases. The book is sure to be popular, and deservedly so. It contains in a concise form all that is really known about the disease of which it treats well up to date.

Abstracts from Foreign Journals.

Œsophageal varices (*Ueber Varicen des Œsophagus*).—PAUL FRIEDRICH (*Deutsches Archiv für klinische Medicin*, Oct. 25th, 1894).—The veins of the œsophagus have their origin in two plexuses. One of these forms a fine network in the submucous tissue; the other, the pericœsophageal plexus, consists of anterior and posterior subdivisions which are connected by many communicating branches about the lower end of the œsophagus. The two plexuses are joined by many branches which perforate the muscular wall of the œsophagus, and they empty themselves by two groups of effluents, the upper group passing to the inferior thyroid, pericardial, mediastinal, and diaphragmatic veins, and the lower to the coronary veins of the stomach. It is an old observation that varicose veins in the œsophagus occur in connection with cirrhosis of the liver, and it has been assumed that an ætiological connection obtains between the blocking of the portal system and the dilatation of the veins of the œsophagus. But it has not been explained why the subperitoneal plexus of Retzius or the hæmorrhoidal veins should not be used for the collateral circulation as well as the veins of the œsophagus. The following case related by Friedrich is of interest from three points of view: first, it occurred in a girl of six years—an earlier age than has been recorded in any previous case; secondly, there was no evidence of portal obstruction; and thirdly, the condition was associated with chorea. The child had been well up to the age of three and a half years, when pallor, general weakness, headache, and abdominal pains came on. One spring, two years before her death, vomiting of blood with pain in the abdomen occurred. This yielded to opium and ice. Next summer the child had indefinite abdominal discomfort. In the autumn of the same year (1893) she was brought to the hospital in a state of extreme anæmia, with the history that on the previous evening she had brought up a large quantity of blood. The abdomen was distended, but there was no pain or tenderness. There were no abnormal signs in the thoracic viscera; gastric ulcer was diagnosed. Opium and ice were given, and three days later replaced by pills containing nitrate of silver. Five days after admission renewed vomiting of much bright red blood mixed with dark clots took place. This ceased next day, and was followed by

melæna, the stools being coffee-coloured. The pulse was small and rapid. The temperature rose to 101° F., the pulse was 160 and stronger. Next day the patient was extremely weak, apathetic, and had great thirst. During the next three days the pulse rate fell to 120-130. Opium was given, and the diet consisted of iced milk. Ten days after the last hæmorrhage, chorea developed, and reached a high degree of severity. Among the symptoms were: difficulty in swallowing, gnashing of the teeth with inability to speak, and continuous twitching of the muscles of the face and neck. The chorea abated somewhat after eleven days, and the power of speech returned, but involuntary jerkings of the limbs were still observed. Three weeks after its onset the choreic attack was at an end, and the general condition so far improved that two months after admission the patient was allowed to be out of bed for an hour or so a day. Eggs, minced meat, and green vegetables were added to the diet. The appetite was good, and there was complete absence of gastric symptoms. On the 26th of December, ten days after being allowed to get up, a violent hæmatemesis occurred, ushered in by abdominal discomfort. Over a pint of blood mixed with food was ejected, and was found to have an acid reaction. The mother said that the child had swallowed a piece of potato shortly before the attack. Hæmatemesis recurred, and the child died twelve days after this attack from loss of blood. The autopsy showed fatty degeneration of the heart, kidneys, and liver, but in the latter organ no trace of cirrhosis. The spleen was enlarged and fatty. The stomach was normal save at the cardiac orifice, where two tortuous and greatly dilated veins were prolonged into its submucous coat from the œsophagus, where they extended upwards for some five inches. There was no trace of the perforation through which the blood had escaped. In the loose connective tissue between the œsophagus and the trachea was a third vein as thick as a cedar pencil and two and a half inches long. As the author points out, the symptoms in this case could only lead to a diagnosis of gastric ulcer. The morbid anatomy is illustrated by a good coloured plate.

Acid gastritis.—BOAS (*Berliner klinische Wochenschrift*, No. 41, 1894).—At the recent congress in Vienna, Boas read a paper in which he stated that he had observed a series of cases the etiology of which was to be explained by the abuse of alcohol and tobacco, and which showed a great similarity to glandular gastritis. A careful examination of the stomach contents showed profuse secretion of mucus and increase in the acid reaction. By the naked eye were seen reticular

fragments which under the microscope proved to be pieces of gland. In diagnosis, the occurrence of numerous cell nuclei appears to be important. Subjectively, the symptoms are those of chronic dyspepsia. From ulcer, acid gastritis may be distinguished by the absence of localised tenderness. The treatment consists in suitable diet, complete mastication of food, and avoidance of alkalies and acids. Waters containing chloride of sodium should not be taken, those having sulphate of soda being preferable. Medicinally, the most useful is nitrate of silver. Washing out the stomach is not indicated. In discussing the paper, Leyden deprecated the too frequent "lavage" of the stomach. It was of service only where tenderness of the stomach was due to hyperacidity, or where fermentation was present; and, further, he was of opinion that hyperacidity is the result of different states without any anatomical basis.

Strophanthus in dipsomania.—M. A. SKWORZOW (*Journal de Médecine de Paris*, No. 41, Oct. 14th, 1894) noted three cases of dipsomania treated with this drug with surprising results. They were patients in whom the attack lasted three to six weeks. After the first administration of strophanthus, in seven-minim doses, the attack was immediately cut short. In the two other cases the attack was cut short after the third dose. At first the patient experiences nausea and a wish to vomit without being able. Two or three minutes later a febrile reaction comes on, which is terminated by copious sweating. These unpleasant symptoms quickly disappear, and with them the longing for alcohol; its sight even provokes intense disgust. To cut short the attack in this way is not attended with any nervous symptoms. The author confesses himself unable to give any explanation of the result, and recommends further investigation.

Alcohol in neurasthenia.—GRÈME M. HAMMOND, M.D. (*Journal of Nervous and Mental Disease*, New York, Nov., 1894).—The diet to be observed in neurasthenia is a question which deserves a great deal of careful consideration. In many cases the digestive organs fail to perform their functions properly, either because the digestive juices are not secreted in their proper proportion, or else chemical changes in their composition diminish or interfere with their activity. This results generally in quantitative indigestion—that is, the inability to digest more than a very limited quantity of food—but sometimes certain classes of foods seem to be discriminated against much more than others. It is not the purpose of this article to consider the subject of digestion in neurasthenia in

all its aspects, but to confine it solely to the influence of alcohol on the digestion of the neurasthenic and on the neurasthenia itself. The free use of alcohol is always more or less injurious to the normal individual, but it is particularly so in cases of neurasthenia. Patients of this description usually find out for themselves that the free indulgence in wines aggravates their headaches, increases their insomnia, induces more indigestion than they usually have, and augments their general symptoms of discomfort. On the other hand, it has been Dr. Hammond's experience that small quantities of alcohol, given with the heaviest meal, frequently assist a feeble digestion. More than this, it seems to dissipate, for a time at least, the depression and confusion which are so often prominent symptoms. It is true that alcohol retards the action of pepsin in experiments performed outside of the body, but within the stomach diluted alcohol, in small quantities, seems to stimulate the gastric tubules and thus increases the secretion of the gastric juice. It is the function of the gastric juice to convert proteids or nitrogenous food into peptones. A diminished quantity of gastric juice, therefore, delays or arrests the digestion of meats, albumen, and gelatinous foods, all of which are nitrogenous, and, as a class, are very necessary in supplying muscular strength and vitality. The gastric irritation consequent upon indigestion has in itself a depressing effect upon the nervous system. It has long been the author's custom, therefore, to advocate the ingestion of a small quantity of alcohol, in the form of a glass of claret, with the patient's heaviest meal. Of recent years he has used one or more of the various preparations of wine of coca, as it seemed that the tonic and stimulating effects of the coca on the nervous system, together with the gastric stimulation from the small quantity of alcohol, had generally a more beneficial effect than claret alone. More recently he has used maltine with coca wine. Here the maltine, which contains diastase, materially aids in the digestion of the starchy foods, while the small quantity of alcohol it contains stimulates the secretion of gastric juice, and thus assists in the digestion of the nitrogenous substance. On the other hand, the coca acts as a mild tonic and stimulant to the nervous system, diminishing the irritability and despondency, and promoting the gradual restoration of nervous strength. Maltine with coca wine is a preparation agreeable to the palate, is a food in itself, assists in the digestion of starchy and nitrogenous foods, and is also a useful tonic to the nervous system. In this form moderate quantities of alcohol can be administered to the best advantage.

The dietetic treatment of phthisis.—H. P. LOOMIS, M.D. (*The New York Medical Times*). Paper read before the Association of the Bellevue Hospital Alumni.—The principal importance of the paper lies in its insistence upon system and regulated diet. We are too apt to deal in generalities, and think we have done enough when we order nutritious diet, and ask in a general way about the appetite and digestion, unless our attention is called to some special derangement. We have long insisted that the scales are an important instrument of precision for detecting the rate of progress forward or backward, not only in the treatment of this disease, but in the general oversight of our patient. A loss of weight is always a suspicious sign, and should arouse our attention at once. The paper referred to divides consumptives into three distinct classes as regards their digestive powers:—(1) Those in whom the digestion and appetite are unaffected; (2) those in whom gastric disturbance has begun, and those up to the time that the stomach refuses solid food—"during this time septic infection is more or less constant, the fever intermittent, and the loss of flesh gradually progressive"; and (3) those who can no longer take solid food without digestive disturbances. The diet should be made to vary according to these stages. As soon as the disease is recognised, systematic dieting should be commenced, and forced feeding (six meals a day) is demanded; meat in large quantities, milk, eggs, and fat should form the main articles, with no restriction on vegetables. Cod-liver oil as a food should be taken, if possible, and the hypophosphites. In the second digestive stage, the main object is to render the diet palatable, and the food should generally be given finely subdivided. Porter or ale with lunch may be of benefit. Cough-mixtures, on account of the syrups and narcotics they contain, should be avoided. Cod-liver oil is particularly useful at this time. Digestive ferments to aid assimilation will have to come into use. For a catarrhal condition of the intestines, the systematic drinking of half a pint of hot water before meals will prove beneficial. In the third stage, all we can hope for is to prolong life in as great comfort as possible. The patient should be fed often in small quantities. Artificially digested preparations will now be called for. Stimulants in small quantities, frequently (every four hours) repeated, are of great benefit. Any cravings, and they are in some cases frequent and many, should be gratified. Feeding through a stomach-tube is applicable in most cases, but will be used only in exceptional ones. Of all the various methods of treatment of this dread disease, none seems to be so logical, none to hold out such prospects of success if adopted early, as forced feeding. It seems to be more in accord with the

clinical observations that failure of digestion and assimilation are the immediate precursors of the more marked symptoms of the disease, and that these latter yield more rapidly to measures and remedies that restore the appetite and increase nutrition than to any others; an increase in weight being invariably attended with a subsidence of the more serious symptoms of the lung trouble itself. The long-continued immunity of some, predisposed by heredity to phthisis, and their sudden succumbing to its attack after a weakening of their powers of digestion and assimilation from other causes, further confirms the *rationale* of this mode of treatment, which in its rigidly enforced requirements deserves more general adoption.

Use of sedatives in heart disease.—PROF. H. A. HARE (*Boston Medical and Surgical Journal*, Oct. 25, 1894). Paper read before New York County Medical Association.—There were drugs, he said, which were entirely different from digitalis and the other ordinary cardiac stimulants, which could often be used with very happy effect. He then stated that he was accustomed to depend upon aconite, veratrum viride and gelsemium. It was the common belief that in almost all heart troubles a stimulant was required, but he believed that this opinion was erroneous. Many gave nitro-glycerine under the impression that it was a stimulant, while in reality its action was sedative. He could not doubt that digitalis was greatly abused by the great mass of practitioners. He related two illustrative cases in his practice. In the first, in which there was cedema and marked digestive trouble, he gave digitalis with nux vomica; and in the other, in which there was no cedema but a good deal of palpitation, he gave aconite. In both instances the most complete relief was afforded. In the first the heart was weak and needed aid, and in the second the heart was strong, but with irregular action. There was a third class of cases in which such a sedative as aconite, and not digitalis, was required. This was where there was excessive hypertrophy; and it was commonly met with in those who, after engaging in a life where extreme muscular activity is called for, devoted themselves to quieter avocations. The compensating hypertrophy then became excessive. He had frequently observed this condition of affairs in medical students who during their previous collegiate course had devoted themselves assiduously to athletics. In their less active life the heart became irregular in its action, and palpitation was frequent on going upstairs, etc. In these cases the fluid extract of aconite, in doses of one or two minims, acted most satisfactorily. Rest in bed, however, was a necessary

adjunct of the treatment. In cases of this kind the hearts were too large and with too powerful action for the work required of them in the changed conditions of life in which the patients were placed. Next to aconite as a heart sedative he ranked gelsemium, and in the third place he esteemed veratrum viride.

Experimental investigation into the ætiology and pathogenesis of cardiac hypertrophy in disease of the kidneys.

(*Experimentelle Untersuchung über die Ätiologie und Pathogenese der Herzhypertrophie bei Nierenkrankheiten*).—PROF. DE DOMINICIS (of Naples) (*Wiener medicinische Wochenschrift*, Nov. 17th, 24th, and Dec. 1st, 1894).—As yet the explanations given of the co-existence of some forms of kidney disease with cardiac hypertrophy are most inharmonious. For instance, Bright regarded as the most plausible explanations, either that the consistence of the blood was increased, or that the capillaries were altered so that more force was required on the part of the heart; whilst Traube, on the contrary, said the destruction of the capillaries in the kidney, and the consequent retention of more water in the circulation, lead to increased tension in the arterial system. Gull and Sutton make both heart and kidney disease secondary to arterio-capillary fibrosis. De Dominicis tried whether by experiment any light could be obtained on a difficult subject. He found that ligation of both renal arteries caused death in dogs just as quickly as did removal of both kidneys. Next, the renal artery on one side only was tied in twenty successive experiments—four of which were done on rabbits, the rest on dogs. It was found that for three or four months the animals, if well tended, remained in good health, but after that time they grew thin without presenting morbid signs in any particular organ. The urine showed the following changes: In the first five days after the ligature there was slight albuminuria. This entirely passed away. The solids in the urine were diminished in amount, uric acid especially. No casts were present. For a day or two the amount of urine was diminished; after that there was polyuria. With respect to the heart, not the least increase of rate or force could be detected, either by palpation or by the cardiograph. The kidneys of some of the animals, killed 25-27 days after, were examined microscopically. The kidney of which the artery had been ligatured, showed changes due to degeneration of epithelium and interstitial nephritis. The latter changes were present also in the untouched kidney. Reviewing the experimental and the clinical evidence, the author concludes, first, that idiopathic hypertrophy of the heart occurs often enough without any kidney disease; and

secondly, that serious and extensive changes may be induced experimentally in the kidneys, without even functional disturbance of the heart, and without ever giving rise to the general condition of Bright's disease. When cardiac hypertrophy and renal disease occur together, they must be regarded as the common effects of a chemical poisoning of the blood. The author promises a future paper on the comparative analysis of the urine and the blood in these cases.

Restoration of life by rhythmical tractions on the tongue (*Des tractions rythmées de la langue comme moyen de rappel à la vie*). Discussion before the Académie de Médecine, Dec. 4th, 1894; *La Semaine Médicale*, Dec. 5th, 1894.—M. Laborde related a fresh case of recovery by rhythmic tractions of the tongue; the subject was a new-born child in a condition of apparent death after delivery with forceps. After having, by the use of lingual traction practised for ten minutes, brought the child to life, M. Guiet, to whom this observation is due, was obliged to leave the child to devote himself to the mother. Returning to it, he found it apparently dead; he then resorted to the usual procedures—artificial respiration, friction, etc., without avail, for ten minutes, when he resorted again to this method, with complete success in six minutes. He considers this conclusive proof of the superiority of rhythmical traction of the tongue over other methods. Replying to M. Tarnier, who advocated insufflation as a process easy of application when mastered, and much more efficacious, he said that insufflation merely inflated the lungs, and did not excite the respiratory reflex. This was accomplished, he maintained, by stimulation of the superior laryngeal nerve or traction of the tongue—one and the same thing; then only did air actually penetrate the lung. M. Tarnier argued, however, that his clinical experience taught him that the respiratory reflex was accomplished when air mechanically entered the lungs. M. Pinard said that he had failed to restore newly born children by the method advocated, but had succeeded by insufflation.

Chloroform or ether?—PROF. MIKULICZ (*Berliner klinische Wochenschrift*, Nov. 12th, 1894).—Professor Mikulicz, of Breslau, discusses this subject, taking Gurlt's statistics as the basis of his remarks. Gurlt holds that his figures are so overwhelmingly favourable to ether that he urges German surgeons to use it as the least dangerous of the anæsthetics. The figures which Gurlt quotes are astonishing. In 133,729 cases of chloroform narcosis, there were forty-six deaths—that is, one in 2,907; while with ether, out of 14,646 only one

casualty occurred. Since the publication of these statistics, in 1893, the use of ether has increased twofold in Germany, and the collected figures again are in favour of the older anæsthetic. Thus, one in 13,160 represents the mortality for ether, as against one in 2,647 with chloroform. Under these circumstances, Mikulicz says it is the duty of every surgeon to justify his action in adhering to chloroform; and this he proceeds to do. After a session's use of ether, he has returned to chloroform. He used ether during the winter session of 1893-94, and during that time about eighty patients were put under its influence in his presence; he had no fatal accident, and his statistics do not injure Gurlt's figures. But he has observed several times after the administration of ether, accidents which do not support the statement of its harmlessness, and he has accordingly fallen back on chloroform. The ether used was absolutely pure, given upon a Quillard mask, and the cases were carefully chosen. Especially were patients with pulmonary affections excluded, as also small children and old people, as well as those with weak heart and marked anæmia. Mikulicz sums up his untoward experiences as follows:—(1) Asphyxia during narcosis, three cases; (2) collapse after administration, two cases; (3) acute bronchitis, three cases; and (4) œdema of lung and pneumonia, two cases. With regard to the three cases of symptoms of asphyxia during anæsthetisation, it is obvious that the breathing as well as the pulse must be watched; and there is no such freedom from danger as is claimed by some surgeons. With regard to the cases of collapse, in the first it came on ten minutes, and in the second, twenty minutes, after the conclusion of narcosis; indeed, in the latter instance, the patient, from whom the mamma had been removed, had been transferred to the ward when collapse set in in a very severe form. The four cases of acute bronchitis were not unexpected, as all observers have met them. It is not, however, as harmless as represented, more especially as Gurlt himself admits it may go on to broncho-pneumonia. The two cases of ether-pneumonia did not prove fatal, though they pointed out a serious danger that is unknown to chloroform. Mikulicz's experience has brought out two dangers not sufficiently considered—viz., late collapse and ether-pneumonia, or lung œdema. He quotes a case, recorded by Poppert, where a patient died two hours after ether narcosis of acute pulmonary œdema. The same author has collected seven similar cases which came on shortly or several hours after the administration of ether. From his experience and study of statistics Mikulicz believes that there is risk in ether which is not expressed in statistics, and that the lesser danger of ether

as compared with chloroform is not yet proved. With regard to chloroform, Mikulicz does not enter into the question fully, but limits himself to a few remarks. He urges the importance of restricting the indication for its administration. He opposes its frequent use for diagnostic purposes, and alludes to the fact that patients suffering from severe sepsis bear it very badly. He advocates the "half-narcosis" in minor procedures.

Preparations of serum as dressings for wounds.—Dr. SCHLEICH (*Therapeutische Monatschrift*, Nov., 1894)—Dr. Schleich describes some new applications for wounds and raw surfaces of skin and mucous membranes. Seeing that repair depends on the unimpaired vitality of tissue-cells, and that—as Schimmelbusch has pointed out—no surface-wound can be made absolutely germ-free, owing to the presence of cocci in the glands in the skin and mucous membranes, the author sought a medium which should, as nearly as possible, resemble the natural surroundings of the living cells. Such a medium he obtained in a powder prepared from the sterilised and dried serum of freshly-drawn ox-blood. After the wound or ulcerated surface has been cleansed, and oozing arrested, the powder is sprinkled on in a thin layer and covered with sterile gauze. After twenty-four to forty-eight hours the dry powder will be found to have formed a firm crust, and all other dressings may be removed. For foul ulcers and other septic conditions, the powder may be obtained mixed with iodoform, boric acid, lysol, etc. Many wounds are found to react too violently to the dressing; in this case sterilised gauze must be substituted for it. Where necrotic tissue is present, its separation is said to be hastened by the application of the powder mixed with from 2 to 3 per cent. of nuclein, which has an elective action on the dead tissues. A further preparation is made in the form of a paste ("Pasta serosa Schleich") of the consistence of honey, and containing, besides the serum, wax and zinc-oxide. The product is soluble in water, and is easily spread over a surface, where it dries to an elastic organic layer similar to Unna's "Zincleim," but, unlike the latter, not requiring heat to soften it. Schleich uses the paste, which mixes in any proportion with chrysarobin, lysol, ichthyol, resorcin, iodoform, etc., for eczema, burns, etc. The paste also mixes with mercury in every proportion. Thus, 5 to 10 grains of the paste can be spread, with a broad painters' brush, on the back, where it sets to a firm layer. There is no dirt or soiling of linen; and when the skin is rubbed with a stiff brush or with flannel and marble-dust soap before the layer is spread on, the mercuration is very rapid, and as soon as salivation sets in the application can easily be washed off. For the application of

gauze-dressings to parts such as the buttocks, Schleich uses a paste prepared with Adankiewicz's peptone, wax, gum, zinc-oxide, and starch. It is soluble in water and thin alkalis. To apply a dressing a ring of the paste is painted around the wound, and a piece of gauze applied so as to cover the wound and the ring of paste, which sets firmly in from five to ten minutes. The paste mixes with iodoform, and can be used as a substitute for collodion, over which it has the advantage of not crumpling the skin.

The operative treatment of tuberculous peritonitis with ascites (*Die Operative Behandlung des tuberkulösen Ascites*).—G. FREES (*Deutsche medizinische Wochenschrift*, Nov. 8th, 1894)—The first recorded paracentesis in this condition was done by Sir Spencer Wells, who opened the peritoneum expecting to find an ovarian cystoma, and found instead a peritoneum studded with tubercles. The ascitic fluid was evacuated and the wound sewed up. The patient recovered rapidly. Dr. G. Frees, of Giessen, records eighteen cases. The author insists on the importance of histological examination before cases are admitted to tables of statistics. In two cases to which he refers ascites was present, and nodules, indistinguishable to the naked eye from tubercles, were present in the peritoneum; but by microscopic examination the lesions were found to be small fibromata in one case, and, in the other, primary cancer of the peritoneum. According to König, all cases of tuberculous peritonitis—whether accompanied by ascites, or of the adhesive or dry, or, again, of the suppurative form—are benefited by operation. Aldibert reckoned 34 per cent. of recoveries in the ascitic form, and 80 per cent. in the adhesive variety. Of the latter group 50 per cent. were permanent. On the other hand, in Germany the ascitic form is regarded as specially suited for operative treatment. The fact that abdominal section alone seems in some cases to effect a cure has been established, though it is puzzling to understand the result. In a case related by Bumm it was found on doing a second laparotomy that the tubercles were surrounded by an additional zone of small-celled infiltration, and it was surmised that the tubercles were destroyed by cicatrization of this inflammatory envelope. Frees's eighteen cases were all accompanied by ascites, and performed on females, of ages varying from fifteen to sixty years. Of these cases five were definitely successful, remaining well at the end of five, four, three, two, and one years respectively. In another case the Fallopian tubes were removed, and three years later the general health was good, but two tumours as large as walnuts were felt attached to the uterus. In none of the cases did the operation appear to have an ill-

effect, but in twelve the downward progress of the disease was unchecked. In one case the uterus was extirpated—*per vaginam*—for cancer of the cervix one month after the laparotomy for peritonitis, which was proved to be tuberculous. This patient died thirteen months after the second operation.

The treatment of abortion.—BROOKS H. WELS (*Canada Lancet*, Nov., 1894).—Out of five thousand gynecological cases coming under the author's observation, nearly 36 per cent. suffered from disease of the uterus or appendages directly traceable to infection following abortion. The author uses the term "abortion" to mean expulsion of the ovum before the end of the third month, and applies the term "miscarriage" to all cases of expulsion from that period up to the time that the foetus is viable. After enumerating the maternal, foetal, and other causes of abortion, he proceeds to discuss the symptoms of the condition. When abortion becomes inevitable, either the uterus empties itself entirely or a portion of the ovum is retained. In the former case involution proceeds naturally and the patient is soon restored to health, but in the latter bleeding continues and the retained tissues may gradually be broken down and expelled. Before, however, this can occur septic infection may take place and induce serious and persistent pelvic disease. Septic material may be present in the uterus although there is no hæmorrhage or discharge, and the cervix contracted and hard. The infection is generally not of a virulent type and then not often fatal. The womb remains large and soft, and its lining membrane is thick, soft, and friable; tubal or ovarian trouble is very apt to follow. In cases of inevitable abortion the treatment should be directed to hastening the expulsion of the ovum. After thoroughly cleansing the vagina and cervix, a strip of iodoform gauze is packed into the cervix, and the vagina tamponed. At the end of eight to twelve hours the packing is removed, when the ovum is generally found loose in the cervix or vagina, and may be removed. If the ovum has not yet become detached the packing may be repeated. If the case is not seen so early and sepsis is present, the patient should be anaesthetised, the os dilated and the whole of interior of the uterus scraped with a sharp curette to remove the fragments. The interior of the uterus having been thoroughly irrigated with a solution of iodine, a strip of iodoform gauze is passed into the cavity and left *in situ* for twenty-four hours. After the end of the third month the use of the tampon is dangerous, as a large amount of blood may accumulate in the uterine cavity. If the hæmorrhage be profuse in these cases, the os should be dilated and the uterus cleared out at once. He strongly

urges that in every case where abortion or miscarriage begins acutely and from natural causes the ovum be removed by the fingers, ovum forceps, or curette within twenty-four hours after abortion be considered inevitable, if the entire ovum be not by that time expelled. In cases where a portion is left behind, the uterus should be explored and emptied at once. If no septic infection has occurred the mass should be removed with the finger or dull curette, but if there is infection the sharp irrigating curette, followed by gauze drainage, is to be employed.

The care of the navel.—DOKTOR (*Archiv für Gynäkologie*, Bd. xlv., H. 3) reports his experience relative to the treatment of the umbilicus in newborn infants and the prevention of infections. In newborn infants the navel forms a columnar projection of the skin, on the top of which the cord is attached—a sharp line of demarcation, the navel ring, separating the cord from the skin. On its margin are numerous vessels that go to the border of Wharton's jelly, but do not enter into it. When the cord is ligated its tissues lose their viability, and must separate and fall away, leaving the wound covered with a living structure. We must regard the navel as a physiological wound of the abdomen of the newborn, its healing differing in no way from that of any other wound, the only peculiarity of the process being the topography of the wound. In typical cases it heals by first intention. This small wound is specially liable to infection and resultant maladies, light or severe:— (1) Because of its condition; it is not merely a wound of the abdominal skin, but also of its wall and in closest proximity to the abdominal membrane (peritoneum), which is very susceptible to infection. (2) The peculiarity that three great vessels lie free in this wound. (3) The third great factor tending to infection is the disproportionately large mass of dead tissue—the remains of the cord. (4) Again, this wound is peculiarly inclined to an excessive formation of granulations. (5) The frequency of development of anomalies and aberrations of the umbilicus also predisposes it to disease. According to Erös, 68 per cent. of umbilical wounds do not heal in a normal manner; and of these cases 45 per cent. suffer from fever. How often these cases terminate fatally is not known. In treating the navel the aim is to obtain healing without infection. The ordinary method is to simply ligate the cord some eight to ten centimetres from the body and wrap it in an oiled rag, after careful disinfection with sublimate solution, 1:1,000, and then binding it to the abdomen with a bandage. At each bathing of the child the cord is washed,

and if there be not much secretion a new bandage is applied, or a cotton wad is placed over the navel first. Too often cleanliness in the latter matter is neglected by the nurse. The author omitted the oiling of the rag in the above method, as it hindered mummification. The temperature was taken twice daily. Iodoform was applied to the wound, or, if needed, a weak carbolized wash. With the above treatment, 35 per cent. of cases had fever, and of these 16 per cent. showed infection. The plan was then changed. The cord was removed as early as possible and all wetting omitted. The bandage was changed daily. After this, 25·8 per cent. showed a rise of temperature, and of these 10 per cent. had infection. Further improvement resulted when efforts were made to hasten mummification of the cord. Ligatures applied closely to the belly were next tried, the stump being one centimetre long. This gave 11·88 per cent. of fever and 3·46 per cent. of infection. As a general rule, fever occurring during the healing of the navel is due to infection, notwithstanding the failure of local symptoms, and especially the coincident frequent digestive disturbances cause no fever. The author summarises the treatment of the umbilicus as follows:—(1) Cut the cord as close as possible. (2) The bandage once applied [should not be changed except for good cause, and preferably the bath should be omitted.

A case of extensive vegetations of the vulva in a woman delivered at full term, and not diminishing afterwards.—PORAK (*Bull. et Mém. de la Soc. Obstét. et Gynécol. de Paris*, Oct., 1894, No. 8).—It is generally believed that it is useless to operate on cases of vegetations of the vulva during pregnancy, because they will probably be reproduced, and if left alone will spontaneously disappear after delivery. Porak states that, if the removal and after-treatment be carefully carried out, the vegetations are not reproduced, although the pregnancy continues. He relates the case of a woman who developed extensive vegetations on the vulva during her second pregnancy. They were not removed, and she was delivered at full term. In spite of prophylactic irrigation of the child's eyes with sublimate solution, it developed severe purulent ophthalmia. Although treated by injections and applications of iodoform, the vegetations of the vulva showed no signs of diminishing, and two months after delivery were just as extensive as they were at the time of the woman's confinement. Under these circumstances Porak removed the vegetations with the curette and scissors; there was only slight bleeding. This case points strongly to the conclusion that

exuberant vegetations of the vulva may not spontaneously disappear after delivery, and that their removal during the pregnancy is clearly indicated.

Note on the hypnotic action of trional.—M. VOGT (*Bulletin Général de Thérapeutique*, Nov. 25th, 1894).—M. Vogt made use of this drug in several cases of insomnia in neurasthenics; the subjects were free from any painful malady to account for their loss of sleep. Usually these cases are best treated by dietetic and hygienic means, but as a rule they do not submit to the necessary discipline. Among true hypnotics, sulphonal and trional are the most manageable. Sulphonal is variable in the rapidity and manner of its action: the hypnotic effect is directly proportionate to its absorption from the intestine, and owing to its insolubility this may be prolonged. Hæmatophorphyrin in the urine has been noted from taking the drug; in such cases the urine is always strongly acid, and Professor Müller has successfully treated this symptom by high doses of the bicarbonate of soda. Trional (diethyl-sulphone-methyl-ethyl-ethane) is closely akin to sulphonal, and a little bicarbonate of soda ought to be given during the day to patients taking trional. Over sulphonal it has the great advantage of being soluble, and consequently it has a prompt action: the proper hour for administration is bedtime. The dose is from 15 to 22 grains, which produce an effect in from ten to twenty minutes. The sleep lasts from six to seven hours, and is quiet and refreshing. This last is an important advantage, and is eagerly looked for by neurasthenics; consequently in a few days a complete cure of the insomnia is effected. All are not equally benefited, and it will probably be suitable for those who sleep easily but waken again on the slightest cause. Sulphonal is usually prescribed in a hot draught, when its effects are most marked. The same practice may be followed with trional; solution is not always complete, but the particles floating on the surface of the liquid are only a small part of the dose. Its uses may be summed up as follows: (a) Trional is preferable to its congener sulphonal in its prompter action and calm sleep with a natural awakening; (b) the only dose is taken on going to bed, and if not successful when taken on two successive nights, it may be discontinued; (c) it will only be used for a few days, consequently no intoxication with the drug need be feared; (d) the degree of acidity of the urine must always be reduced; destruction of blood only takes place when the urine is strongly acid, and is always met by alkalis; (e) the constipation, occasionally following its use, must not be neglected, to avoid a dangerous accumulation

owing to defective excretion. In the subsequent discussion M. Vogt denied that he had attacked sulphonal. Trional, he considered, had not some of the disadvantages of sulphonal; in the long run the latter loses its effect. M. Paul considered sulphonal better than trional for nervous insomnia without lesion, in which cases opium is useless. It has no action either on the heart or lungs, and for cardiacs it is invaluable; but, not preventing the cough, it is useless in phthisis. He had always found the sleep tranquil with a natural awakening; no nausea nor anything such as is met with after alcoholic excess. In the use of trional he had never found any advantage. He wished to know on what M. Vogt relied to diagnose the increase of the acidity of the urine; had he actually estimated the amount of uric acid? M. Vogt considered the reaction with litmus sufficient: this was a preliminary observation; he simply mentioned it as showing the necessity of alkaline drinks as a proper vehicle. M. Bardet did not consider the use of sulphonal as entirely free from disadvantage. M. Hénocque had studied the phenomena of sulphonal intoxication in animals, while investigating modifications of the oxygenation of the hæmoglobin under the use of this drug, and he should advocate the use of the drug which was best tolerated by the patient.

Circumcision: dangers of unclean surgery.—HENRY LEVIEN, M.D. (*New York Medical Record*, Nov. 17th, 1894).—Hebrew male children are generally circumcised on the eighth day after birth. Circumcision is practised as a purely religious rite, and is as remote as Abraham, who performed the operation upon himself at ninety-eight. There are some allusions in ancient literature to the effect that this operation was performed for the sake of cleanliness. Herodotus (ii., 37) ascribes the origin of the custom to the Egyptians. The same cause is given on the authority of Philo the Jew—other causes being avoidance of carbuncle, purity of heart. Ethnologically, the rite is of Semitic origin, taken probably by the Hebrews from the Arabs, or, perhaps, the Egyptians, although the Hebrews circumcise on the eighth day, and other peoples on the approach of puberty, a difference which is somewhat inexplicable. The operation was performed with a sharp stone, and only a portion of the foreskin was removed. A short description of the rite will be interesting. The friends are invited to be present at the ceremony and dinner after. The chief personality of the day is the surgeon-in-chief—the Mohel—who often operates three or four times in one day. Usually, his sole training is to have witnessed the operation several times, and to have an acquaintance with the Talmud,

and especially the parts treating of the anatomy of the generative organs; any knowledge of asepsis and antisepsis is conspicuously absent. A maiden takes the child from the mother, gives it to a boy, who carries it into the operating room and places it on the lap (the operating table) of the most honoured male guest present, when the Mohel meets it with the words:—"Blessed be he who has come." The surgeon's armamentarium consists of a single double-edged knife; usually there are on it spots of dried blood, his only notion of asepsis is to try and rub them off with his finger. The operation is divided into four parts. First of all the Mohel takes the foreskin between the forefinger and thumb of his left hand, says a prayer, and cuts it off; an assistant now tears the mucous membrane with the pointed nails of his thumbs, and pushes it back to the corona; another assistant takes the bleeding organ into his mouth, perhaps full of septic material, and sucks it, spitting the blood into a special receptacle into which the foreskin is thrown; lastly, the Mohel applies sour, pulverised, decayed wood—reputedly astringent—and some rags as a dressing. After singing a prayer, he wets his left little finger in wine, and with it touches the lip of the child, saying, "Live with thy blood," and the child is returned to the mother. The writer then proceeds to discuss the *pros* and *cons* for legislative interference with the rite. The direct injury, and even death, inflicted upon the newborn, apart from necessity or humanitarian motives, call for prohibition in his opinion. On the other hand are religious scruples which ought not lightly to be interfered with. Further, there is the comparative immunity, and the more ready cure, of venereal disease among the circumcised; phimosi and paraphimosis, due to venereal infection, is almost unknown among the Jews; and, again, in competent hands, the operation is not severe and is readily borne. Lastly, if the process is depletory, the very depletion may be necessary for hereditary reasons for the well-being of the race, and to stop it may be disastrous. The objection might be met by legislation prohibiting the operation in its present form, and compelling the presence of a surgeon. Circumcision is an operation requiring as much care and dexterity on the part of the operator as any other surgical procedure, and should be performed by a competent operator, or under his direct supervision.

[It has been clearly demonstrated by Mr. Hutchinson and others that syphilis may be communicated by circumcision performed as a rite.]

New Inventions, Instruments, Foods, etc.

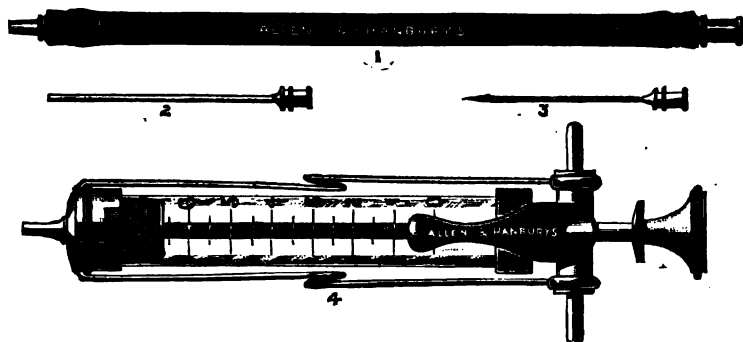
Aseptic Operation Tables.—The Operation Tables are made of enamelled iron tubes, with copper wells. The figure shows a table suitable for laparotomy, ovariectomy, and abdominal sections. It is worked by means of rack levers, which are easily manipulated and put in and out of position at will. The tubes are hollow, in order that hot water may be used during operations to keep up the temperature of the



patient. They may also be used as a kind of bath, there being a large copper well at its base, as shown in the figure. It seems to combine all the essentials of a modern operation table. Another feature in connection with this table is that there are no sharp corners to impede the operator in his work. It is used in the Gynæcological Theatre of the chief hospital in Hamburg, and in a few of our English hospitals. When exhibited at the recent Vienna Exhibition it attracted a great deal of attention. The table is made in two forms. The tables can be obtained at Messrs. Allen and Hanburys' newly-opened establishment for surgical instruments, at 48, Wigmore Street, W.

Debove's Syringe for the Injection of Antitoxin.—Debove's Sterilisable Hypodermic Syringe, used for the injection of antitoxin in diphtheria, consists of a glass

tube graduated in cubic centimetres. Two movable and independent sockets adapt themselves to the extremities of the glass tube. The piston is so constructed that it is possible to regulate the contact between it and the body of the syringe as desired. The syringe is completed by a movable metallic armature, completely independent, formed of two parallel wires which are united on one side and on the other by a hollowed plate. The syringe can be instantly dismantled to be sterilised. Another advantage claimed for the instrument is that all the parts are interchangeable, so that loss of time and



expenses for repairs are to a large extent avoided. In case of breakage or other accident, it is sufficient to ask for the piece which has to be replaced. This can easily be fixed by the owner of the syringe himself. The syringe is manufactured by Messrs. Allen and Hanburys, and can be procured at their establishment for the sale of instruments, at 48, Wigmore Street, and 12, Welbeck Street, W.

New Tabloids. — We have received from Messrs. Burroughs and Wellcome some samples of tabloids of thyroid gland, cerebrine, didymin (orchitic substance), pituitary bodies, and ovarian tissue. These latest additions to our therapeutic armamentarium are thus easily placed within the reach of all practitioners who wish to make a trial of animal extracts. They are prepared with the well-known care of this firm.

Practical Notes.

SOME attention has recently been directed to the question of the administration of drugs in compressed and concentrated forms. The whole subject of pharmacology is deserving of much greater interest than is at present bestowed upon it, and it is strange that, while the study of the therapeutic action of drugs, pure and simple, has made such vast strides, that of the methods of prescribing and dispensing them should lag behind.

COMPARED with many countries, much of our prescribing must appear so antiquated that its existence can only be explained as a survival of the times when disease was looked upon as a form of possession by evil spirits. In these pre-historic periods—and at the present time in many savage countries—when other means failed to exorcise the devil of disease, he was commonly dislodged by rendering his quarters too unpleasant to be inhabited. With this object the unfortunate patient was shaken and pummelled, or otherwise maltreated, while he was made to swallow the most horrible and loathsome concoctions.

It is possible that in the case of children there still exists in some minds an idea that the nauseousness of a draught is a fitting punishment for the guilt to which their pains and pangs are not uncommonly ascribed. This feeling may have nerved Mrs. Squeers to the righteous task of administering brimstone and treacle to the boys, although she gave as a reason that it was given "partly because if they hadn't something or other in the way of medicine they'd be always ailing and giving a world of trouble, and partly because it spoils their appetites and comes cheaper than breakfast and dinner." The same conception may explain why the name of Dr. Gregory has been handed down through generations of shuddering sick children.

IN the present year of grace it is nothing less than torture to administer drugs to children in a nauseous form, while there are so many means of making them palatable. Even if instances occur when a drug is only available in a disagreeable

or bulky form, a very little study and care will enable the practitioner to substitute a pleasanter agent very little inferior in therapeutic usefulness. It is important to consider that any deficiency in the substitute may in the end be more than compensated for by the fact that it does not upset the patient's nervous system that it can be continued as long as required, and that it is probably more readily assimilated.

TABLOIDS were in use in Switzerland long before they were introduced into this country. In France the *potion* is generally a more palatable and elegant compound than our six or eight-ounce mixture; besides which, whenever possible, a prescription is dispensed in a *cachet*. In Italy the most usual custom is for powders to be ordered: just before being taken a wafer of rice paper is dipped quickly into water and placed on a spoon; the powder is placed on the centre of this now pliable sheet, quickly wrapped up, and swallowed with a sip of water without being either tasted or smelt. The method is simple, cheap, and most universal. Our American *confrères* generally prescribe their drugs in the form of pills or capsules; and when the liquid form is inevitable, it is made as palatable and concentrated as pharmacy will allow.

THE tabloid form of administration has its limits, although such volatile substances as ammonia and carbolic acid can now be chained in a lozenge, and the bulky Mist. Stomachic. Comp. of St. Bartholomew's Hospital, containing two drachms of compound infusion of gentian and two drachms of compound infusion of rhubarb, together with soda and peppermint, is now available in a small solid form. But there are other than pharmaceutical reasons why all drugs should not be given in the solid form. The first is, that we have yet to know more of the disintegration and absorption of tabloids in the gastro-intestinal tract before they can be ordered universally and indiscriminately. A five-grain tabloid of salol placed in a wineglassful of water may break up and fall to pieces within a few minutes, when a similar tabloid will pass through the intestines of a typhoid patient, and be voided perfectly intact. Salol tabloids have frequently been given to disinfect the digestive tract previous to operation, and it has happened to more than one surgeon that on making his incision into the bowel the tabloids have tumbled out of the wound as complete as when they were swallowed.

TAKE, again, such a drug as sulphonal. If swallowed in a tabloid form—even in a patient with a sound digestion—it will take many hours before it exerts any action, and then possibly its effect will be so gradual and long-drawn-out as to be practically *nil*. In many instances when sulphonal tabloids are taken at bedtime, the patient fails to obtain any sleep through the night, and only feels very drowsy next afternoon. The full effect of this hypnotic is best obtained by reducing it to a very fine powder and giving it in some hot soup two or three hours before bedtime.

MANY drugs owe a great part of their beneficial action to the effect they produce by coming in contact generally with the mucous membrane of the stomach; and a tabloid of bismuth or magnesia will have nothing but the irritating effect of a hard foreign substance in many a case of dyspepsia, when the same drugs would give the greatest relief if suspended in an ounce of fluid menstruum. Other remedies, such as pepsine, the mineral acids, various antiseptics, etc., are frequently prescribed with the express purpose of becoming intimately and quickly mixed with the food in the stomach. If given in a solid form this object is, of course, defeated.

OTHER instances will readily suggest themselves where a great deal of the virtue of a drug is lost if it is dispensed in any but a fluid form. It is a question if potassium iodide is not very irritating to the gastric mucous membrane when given in the concentrated form of a tabloid. When given alone it is apt to be very slow of absorption; the addition of ammonia is generally acknowledged to add greatly to its efficacy, and the following is an effective prescription in a portable form :—

R Potassii iodid. gr. v.
 Spirit. Ammon. Aromat. ℥xv.
 Tinct. Gentian. Comp. ad ʒj Ft. dosis.

S. To be taken in a wineglassful of water.

Take, again, as an example, one of the bitterest-tasting drugs—quinine. It will frequently be found that, if prescribed in a liquid effervescing form, it will agree with the stomach, and a small dose produce as much effect as a much larger

one in a solid form, while at the same time avoiding the possibility of irritation and tinnitus from larger doses.

The quinine may be given thus :—

R Quiniæ Sulph. gr. ij.
Acid. Citric. grs. x.
Elixir Simpl. ʒss.
Syrupi Aurantii ʒss.
Aq. ad ʒss. Ft. Dosis.

S. To be taken with 10 grains of Bicarbonate of Soda dissolved in a wineglassful of water.

THE advantages of compressed drugs are so well known that no reference has been made to the innumerable conditions and circumstances in which their employment is particularly suitable and advantageous. We would only suggest that the practitioner's aim should not be to get every prescription into tabloid form without considering whether his therapeutic object in certain cases will not be better attained by ordering his remedies in a liquid form.

STRYCHNINE is frequently given in two varieties of obstetric cases. Where there is a history of flooding, it is administered in doses of one-sixtieth of a grain three times a day for a period of from four to six weeks before the time of labour. It is given in the same manner when previous labours have been slow, owing to irregular and feeble uterine contraction.

DIURETIN is the workable name given to a double compound of sodium theobromine and sodium salicylate. In many cases it has a safe and marked diuretic action, the dose being 15 grains, repeated three to six times in the twenty-four hours.

In another column will be found reviews of two new books on the uric-acid diathesis. M. Robin recently read a paper before the Académie de Médecine on the influence of bicycle riding on this condition. He stated that moderate bicycling diminished markedly the secretion of uric acid, and held that this exercise does not result in lack of elimination of the uric acid, but really diminishes its production. He finds, on the

other hand, that in sclerosis of the kidneys, in which a small amount of albumen is the most constant symptom, indulgence in this form of exercise is apt to markedly increase the amount of albumen, and is therefore contra-indicated.

THE *Journal d'Hygiène* suggests a simple method of determining whether a cesspool communicates with a well of drinking water. Pour into the cesspool about a pint of fluorescein—8 ozs. to 1½ pint of water. In a very short time, if any communication exists, the well water will be coloured a deep red.

THE remedy used in the German army for sweating feet the "Fuss-streupulver," is made as follows:—

R Acid. Salicylic. partes 3
 Starch ... 10
 Pulverised Soapstone 87

S. To be dusted into the stockings.

THE following was a favourite prescription of Sir Andrew Clark's for various kinds of neurasthenic debility:—

R Acid Phosphate ʒj.
 Ext. Cocæ Liquid. ʒss.
 Ext. Damian. Liquid. ʒss.
 Tr. Nucis Vom. mʒ.
 Syrup. Zingib. ʒj.
 Aq. ad ʒss. Ft. Dosis.

S. To be taken in water at 11 a.m. and 6 p.m.

In various neuroses where both sleeplessness and constipation are common symptoms, the following is a useful prescription:—

R Ext. Cannabis Indicæ
 Ext. Belladonnæ aa gr. ʒ.
 Pil. Aloes c. Ferro gr. iv.
 Ft. Pil. j.

S. To be taken at bedtime, every night if required.

The last ingredient can be varied according to the case.

THE PRACTITIONER.

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Original Communications.

ON SOME POINTS IN THE TREATMENT OF STRANGULATED HERNIA, ESPECIALLY AS TO ITS RADICAL CURE.

BY WILLIAM ROSE, M.B., B.S., F.R.C.S.,

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INASMUCH as the general practitioner is liable at any moment to be called to a case of strangulated hernia, and as it is advisable in most instances to take such steps, in addition to the relief of the strangulation, as will prevent recurrence of the hernial protrusion, it may be useful to discuss in these pages the different methods now recommended. In order to clear the ground of unnecessary complications, it may be at once acknowledged that the importance attached in old text-books to the site of strangulation has disappeared with the universal adoption of the *open* method of treatment. The old-fashioned operation of Petit, which dealt with the strangulation without opening the sac, the constriction being divided from without, is unsatisfactory, unscientific, and uncertain, inasmuch as no accurate knowledge can be gained of the actual condition and relationship to each other of the sac and its contents. Moreover the dread of opening the peritoneal cavity, which formerly obtained, has been effectually banished by the knowledge which we now possess. Up to within the last few years the surgeon was content to cut

down upon the strangulation, and, after laying open the sac, dividing the constriction, and reducing where possible the protruded viscera, the wound was closed with or without a drainage-tube and no further steps taken. Since the value derived from the operation for the radical cure of hernia has been more fully recognised, the opportunity for undertaking this, afforded by the existence of a strangulated hernia, is generally taken advantage of by operating surgeons. But it is possible that general practitioners are still a little reluctant to undertake it, owing in some measure to the complicated descriptions given in text-books and to the multiplicity of methods and details suggested. In reality the general principles which should guide a surgeon are tolerably simple, and may be enunciated as follows:—(1) It is essential that the sac should be emptied of its contents by reduction of intestine, and removal or reduction of omentum, necessitating in some instances the breaking down, or division between ligatures, of adhesions. I am not proposing to deal with the question of the treatment of gangrenous hernia, but assume that the condition of the bowel and omentum is such that they can be safely returned. (2) The sac must be freed from its connections and isolated, and then may be either removed entirely after transfixion and ligature, the stump being either fixed in position or allowed to retract by itself; or it may be employed as a pad to block the entrance to the canal through which it passes. (3) Measures should then be adopted to occlude the passage through the abdominal parietes and to restore the natural valve-like action of the canals, as so wisely and forcibly urged by the late Professor John Wood. I propose in the first case to indicate the course I usually follow, and then allude to some of the operations recommended by other surgeons.

There is always sufficient time to allow of the *purification* of the skin, instruments, and hands of the surgeon and those assisting him, and this must be done in no perfunctory manner, but thoroughly and efficiently. The hair in the neighbourhood of the operation should be shaved, and the parts washed with soap and water, and a solution of carbolic (1 in 20) should be gently rubbed in with a nail-brush or

piece of lint: this must not be applied too forcibly, or the skin may be irritated, and an "antiseptic eczema" produced. During the whole of the operation, a solution of warm antiseptic lotion—*e.g.*, carbolic acid (1 in 40)—should be occasionally dabbed over the wound, and sponges, if used, should be previously sterilised.

The *incision* is best made, in the case of inguinal hernia, in the direction of the inguinal canal; it should be about $2\frac{1}{2}$ inches long, and its centre placed over the external abdominal ring. In femoral hernia a vertical incision is made over the course of the crural canal, and inasmuch as the sac may lie close under the integument, it is often safer to pinch up the skin on either side and make the incision by transfixion. In umbilical hernia the skin is also best cut vertically, and the same plan of transfixion will be found useful.

The next important step is the *identification and separation of the sac* from other structures. In a case of strangulated hernia this presents, as a rule, but little difficulty; it should be isolated from its connections and its neck thoroughly defined. It is next carefully opened; for although, as a rule, the fluid in its interior will save the intestine from being cut, yet a dry sac is not infrequent, or in some rare instances the intestine may be adherent along its anterior wall. The opening in the sac having been enlarged, the seat of strangulation is ascertained by passing the finger up to its neck, and the stricture divided by inserting a probe-pointed bistoury along the left index finger, which also guards and represses the gut more satisfactorily than any director can do. Two or three slight notches at different points of the neck of the sac are much safer than one deep cut, which is sometimes recommended. The intestine is then drawn down and examined to ascertain (1) that no other deeper cause of strangulation exists; (2) that the condition of the parts at the seat of strangulation is sufficiently satisfactory to allow of its return; and (3) that no formidable deep adhesions are present. This done, the bowel can now be reduced, as also the omentum, if healthy and small in amount. In many cases, however, this tissue will be found

considerably changed, matted together and hardened to such a degree that its reduction *en masse* is impossible; under such circumstances it must be removed. A little more omentum should be pulled down, and the vessels and omental tissue ligatured in small portions, and the part below cut away with scissors. Whether the bowel is reduced first or the omentum dealt with, the reduction of the protruded intestine must be effected with the greatest gentleness, and owing to an œdematous thickening of its coats steady pressure of the fingers is often required, in order to diminish its bulk and facilitate its return.

Steps are now taken for the *cure of the rupture*. In accordance with the general principles laid down at the commencement of this paper, the sac having been thus emptied should now be completely freed from its connections, especially on its deep side, and removed. This is effected by pulling it well down and transfixing it with a needle which is somewhat blunt, so as to push aside vessels rather than puncture them; the needle is threaded, by means of an eye near the point, with stout silk or catgut carefully purified, and then withdrawn after seizing the ligature with forceps and drawing it out single. It is then passed round one half of the neck of the sac and tied; the ends are then carried round the other half and tied again, and as an extra precaution the whole neck is encircled once more and a third reef or surgeon's knot applied. The ends are then cut short and the sac removed a little below the site of the ligature. By this process the complete obliteration of the peritoneal process into which the hernia descends is most certainly attained, the normal infundibuliform appearance as looked at from within being changed into a puckered elevation. This proceeding applies more especially to the inguinal and femoral varieties of hernia. In the umbilical the sac is dissected away as far as the margins of the opening in the linea alba, which is closed by fine silk or catgut sutures after the insertion of a deeper series through the whole thickness of the abdominal wall, which are left untied until the peritoneal wound has been secured.

The sac and peritoneal pouch having thus been obliterated, the surgeon next turns his attention to the muscular and

tendinous structures which surround its neck, the treatment of which varies with the type of hernia dealt with.

In *inguinal* hernia the approximation of the conjoined tendon to Poupart's ligament and the suturing of the aponeurosis of the external oblique are the chief points to be aimed at, taking care at the same time to leave sufficient room for the spermatic cord so that its vessels shall not be compressed. To accomplish this a curved needle set on a handle is passed unarmed through the edge of the conjoined tendon, guided by the left index finger, which should lie in front of and protect the structures of the cord. According to the fancy of the surgeon, it may be inserted either from before or behind, and care must be taken not to include too much soft superficial tissue, for fear of causing trouble later on by its strangulation. A piece of thoroughly purified silk of medium size and about 14 inches long is now threaded, and the needle withdrawn carrying the thread with it, which is thus left traversing the inner pillar. The needle, again unarmed, is next passed through Poupart's ligament from above downwards, and threaded with the deep end of the same suture and withdrawn, the cord being protected and pushed inwards by the index finger, the suture thus passing in front of it. If the needle is inserted from behind forwards, as is preferred by some, it must be threaded first; but personally I prefer the former method. Two, three, or more such stitches are employed, and, after all of them have been introduced, they are drawn tight and knotted up successively.

In *femoral* hernia great care is required on account of the close proximity of the femoral vein. The method I have usually employed is to pass the needle through the fascia over the pectineus muscle, and also through Poupart's ligament close to Gimbernat's ligament, in this way occluding the deep femoral ring by an antero-posterior suture. My colleague, Mr. Cheyne, has lately carried this process a step further by dissecting up a portion of the pectineus muscle and fascia, and plugging the canal with it by passing sutures.

It is not my intention to advert further to the slight modifications which have been advocated and practised in the treatment of umbilical and femoral herniæ, but so much has

been written about inguinal hernia that this paper would be incomplete indeed without some notice being taken of the more prominent of these methods. They may be discussed under two headings:—(1) The treatment of the sac, and (2) that of the abdominal parietes and spermatic cord.

(1) As to the sac. Formerly I utilised the ligature, which constricted the neck of the sac by passing one end through the conjoined tendon and the other through Poupart's ligament, as described above; but subsequent experience has taught me that such a proceeding is inadvisable, and I have now discontinued it, my reason for such being that the neck of the sac cannot be so thoroughly returned into the abdomen, whilst the presence of the ligatured stump interferes with the efficiency of the first deep suture. This plan has been advocated by Mr. Barker, of University College Hospital, and sometimes goes by his name.

Another method of treating the sac is by *invagination*, as described by Mr. Stanmore Bishop (*Lancet*, March 31, 1890), and more recently elaborated by Mr. W. H. Bennett (*Lancet*, Sept. 12, 1891). In the method recommended by Mr. Bennett the sac is divided just below the external ring, and the neck freed as far as the internal ring. The abdominal parietes are then transfixated from without inwards at a point a little above and internal to the internal abdominal ring by a handled needle, which, guided by the index finger within the canal, is passed down the inner side of the sac and made to perforate it on its inner aspect close to the cut margin. The needle is now threaded with a piece of catgut or kangaroo tendon and withdrawn, thus leaving the thread in its track. The distal end of the thread is introduced by a similar manœuvre through the outer side of the sac, the needle transfixing the abdominal walls a little external to the first puncture. Thus there will be a loop encircling the lower end of the sac, which may now be closed by suture in the usual way. Tension on the ends of the deep sutures invaginates (or is supposed to invaginate) the sac, fixing it to the abdominal wall well above the internal ring. This suture must be considerably hampered in its action by those inserted for the closure of the canal, which, it is recommended, should pass through the neck of the sac.

Treatment by *torsion* has been practised by Dr. Charles Ball (*British Medical Journal*, 1884). Having entirely freed the sac, the fundus is grasped by a pair of forceps and twisted until the mass is quite tense and cord-like. The twisted neck is then ligatured as high as possible, and a suture passed through the integumental and tendinous tissues on either side, transfixing the neck of the sac below the ligature so as to prevent its becoming untwisted. One or more additional sutures are passed through the pillars of the ring. By this means it is claimed that the peritoneum is thrown into radiating folds around the internal abdominal ring and a prominence created which obliterates the hernial fossa. The proceeding is, of course, more complicated than simple ligature and extremely difficult in congenital cases.

The method employed by Macewen, of Glasgow, consists in freeing the sac and passing through it a running thread from side to side, so that when the silk is drawn tight the sac is thrown into pleats or folded up like a screen. The proximal end of the suture is passed through one pillar and the distal through the other, with the result that the folded-up sac is placed as a pad over the inner aspect of the internal abdominal ring, which has previously had the peritoneum loosened around it, forming an effectual barrier, it is hoped, against the return of the hernia. The ends of this suture are secured by being passed two or three times through the external oblique aponeurosis, but not until the deep stitches have been placed in position. These are inserted by means of special blunt-ended double-curved needles. A first is introduced through the conjoined tendon and brought out again through the same structure, but lower down, so that when the thread is withdrawn a loop is left on the abdominal aspect of the tendon. Each end of this is then passed through the deeper part of Poupart's ligament, so that when tightened the inguinal canal is most efficiently closed by super-position of its coverings. A second similar stitch may be inserted lower down if necessary. I have not made use of this operation, but in the hands of its author it has given excellent results especially in cases where the abdominal parietes are badly developed.

In *congenital hernia* the separation of the sac is always attended with some difficulty, since the various structures of the cord are more intimately adherent to it, and often indeed spread out over it, so that considerable care is needed to prevent injury to the vas and blood-vessels. With the exercise of great care it should be possible so to detach the vas at the level of the internal ring as to allow transfixion and ligature of the entire peritoneal process; for if, as is recommended in some text-books, only a portion of it is secured, there is no effectual barrier against recurrence. The lower portion of the sac is removed as far as the upper margin of the testicle, and the opening into the tunica vaginalis either closed by suture or left to heal of itself.

(2) As to the treatment of the abdominal parietes, the chief plan needing discussion is that known as *Bassini's operation*. This consists in splitting open the external oblique aponeurosis by extending the external abdominal aperture upwards and downwards. The deeper portion of the cord is thereby exposed, as also the lower arched fibres of the internal oblique. The sac is next dealt with, whilst the structures of the cord are lifted from their normal situation and displaced, so as to pass directly through the abdominal parietes from the internal ring, lying henceforth superficial to the external oblique aponeurosis for the distance corresponding to the inguinal canal. The arched fibres of the internal oblique are then accurately secured by suture to the deeper fibres of Poupart's ligament, whilst the wound in the external oblique aponeurosis is also closed by a separate row of sutures. The inguinal canal is thus firmly occluded, and as the cord passes directly through the abdominal wall at a spot corresponding to the internal abdominal ring, and not along its usual oblique passage, the sutures can be inserted much more firmly and closer together. As a modification of this proceeding, Halstead has suggested that the outer fibres of the internal oblique should be divided for a short distance, and the cord given an upward turn before it is brought through the external oblique, so that it may be surrounded by muscular fibres, and also not pass quite directly through the abdominal walls.

It remains to be seen whether this plan gives better and more lasting results as regards the prevention of the recurrence of hernia. It cannot be doubted that recurrence will occur in a certain percentage of cases, whatever plan is adopted; for the structures entering into the formation of the abdominal wall and inguinal canal are occasionally so deficient and weak as to be unable to resist the impact of the abdominal contents. Such cases would not be selected by a judicious surgeon for radical cure except when strangulated.

In conclusion, a word or two may not be out of place with regard to the suturing of the skin and toilette of the wound. In most cases of strangulation, where generally local congestion of the soft parts is present, from which we may expect a good deal of serous oozing, it is perhaps safer to use a drain-tube of moderate calibre, bevelling it and stitching its opening level with the skin. The rest of the incision should be accurately closed by an interrupted or continuous suture, and an antiseptic dressing applied with careful graduated pressure. The drainage-tube should be removed at the end of twenty-four or forty-eight hours.

THREE CASES OF RENAL DISEASE DURING PREGNANCY.

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I PUBLISH the following cases because they illustrate the natural history of the forms of renal disease which occur in pregnancy.

There are two forms of renal disease which are peculiar to pregnancy and depend upon it—(a) an acute, and (b) a chronic. Either of them may, or may not, be attended with fits, though the fits more often accompany the acute disease. Either form of renal disease may come on in a healthy

woman, or in a woman already the subject of renal disease of a kind not dependent on pregnancy.

The *first* of the cases now published is one of the *chronic* form of renal disease in pregnancy, without fits, the dependence of the renal disease upon the pregnancy being shown by immediate and rapid recovery when the pregnancy was terminated.

The *second* case is that of a patient who had two slight attacks of the *acute* renal disease to which pregnant women are liable, the first attack being accompanied by symptoms such as often precede and accompany fits, but no fits; the second attack with slight convulsive movements as well. Each attack ended in recovery without termination of the pregnancy.

The *third* case is one of *acute* renal disease coming on during pregnancy, in a patient already the subject of pyelitis such as occurs in non-pregnant patients, the disease peculiar to pregnancy passing off without interruption of the pregnancy, leaving the pyelitis behind.

Case I.—S. T., aged 22, was admitted into the London Hospital June 6th, 1894. (For notes of the case I am indebted to Mr. E. Chichester, Resident Accoucheur, and Mr. J. Rowland Turner, Clinical Clerk.) She was a foreigner, and could not speak English; therefore the clinical history was obtained with difficulty, and was imperfect. She had had one child a year and eight months ago. She now thought herself eight or nine months pregnant; did not know exactly.

On admission there was œdema of all parts, especially of legs, thighs, and vulva. At the posterior part of the labia, which were much swollen, were spots that looked as if sloughing; the labia were therefore pricked that serum might exude. Much vaginal discharge. Ophthalmoscopic examination showed nothing abnormal; no sign of neuritis or retinitis. No cardiac murmur; no appreciable hypertrophy or dilatation. The patient had had no fits.

For the reasons (1) that Bright's disease brings with it danger of intra-uterine death of the child, (2) that women with kidneys already diseased are especially liable to the acute renal change that causes eclampsia, and (3) that renal

disease coming on during pregnancy gets well more quickly and certainly when the pregnancy is terminated, it was decided to induce labour.

On June 8th a bougie was inserted between the membranes and the uterine wall. After it had been in place forty-five hours there were no pains, nor any indication of labour; it was then removed and another one put in. Next day (June 11th) there were still no pains, but the os would admit the finger. Therefore, at 4 p.m., Champetier's bag was put in. Eleven hours afterwards the bag came out, and on examination it was found that it leaked and had become empty. There were no pains, but the os uteri was dilated enough to admit two fingers. The membranes were unruptured. As the dilatation of the cervix indicated that labour was in progress it was allowed to go on without further interference; and the next day (June 13th) at 8.45 p.m. a living male child was born.

At 2 p.m. (before delivery) the patient had a rigor, and the temperature rose to 105° . At 9.45 p.m. (an hour after delivery) there was another rigor, and the temperature was 102.3° . At 10.30 p.m. a third rigor, with a temperature of 104.2° , the pulse then being 90. Next day, and throughout the rest of the patient's stay in hospital, the temperature was normal. The course of the lying-in presented nothing worthy of note except the renal function; and the patient left the hospital with her child on June 23rd.

The urine.—(1) *Albumen.*—Broadly summarised, the course of the case was this: a great quantity of albumen when the patient was admitted; quick diminution of the albuminuria to a certain point by rest, before termination of the pregnancy; great drop and quick disappearance of albuminuria after the uterus had been emptied.

The details are as follow:—On admission at 9 p.m. the urine contained four-fifths of its bulk of albumen. The albumen was serum-albumen, not paraglobulin. At midnight, after three hours' recumbency, it had sunk to half. During the next three days (June 7th, 8th, and 9th) it varied between a sixth and a third. On June 10th its range of variation was rather wider, from a half to an eighth. On June 11th it was

from a quarter to a twelfth, and on June 12th from a fifth to a tenth. So that although rest brought an immediate drop, after this first drop there was no striking change. On June 13th (the day of delivery) the albumen in the urine withdrawn before delivery was from a quarter to a twelfth. At midnight (delivery at 8.45 p.m.) the albumen had sunk to a trace. During the three following days it was from a trace to a twentieth. On June 16th one specimen examined was free from albumen; another contained a trace, which was serum-albumen, not paraglobulin. The urines examined after this date were, unfortunately, all mixed with discharges, which accounted for a small amount of albumen in them. The patient left the hospital at her own wish, before she was advised to do so.

(2) *Quantity of urine and urea.*—As the patient did not understand English, it was impossible to get her co-operation in saving all the urine. It was drawn off with the catheter at intervals of from two to four hours; but I cannot say that none was passed between the times when the catheter was used. The amounts drawn off are therefore probably below the truth. When admitted, the bowels were confined; aperient medicine was given, which acted repeatedly on June 8th and 9th, and the passage of urine with the motions I think accounts for the small amounts collected on these days.

The quantity of urea was estimated by the Russell-West process. The errors affecting the quantity of the urine affect also that of the urea.

The cause of error in under-estimating the quantity of urine and urea was in operation throughout the whole of the patient's stay in hospital. It therefore does prevent inferences from the comparison of different days. It will be noticed (1) that although before delivery the quantity of urine and urea was not large, yet there was never anything like the great diminution which has been observed in cases of eclampsia; (2) that delivery was followed by a rapid and marked increase in the amount of urine and urea. I have elsewhere pointed out* that when diuresis and liberal excretion of urea follow delivery the patient does well. When the excretion of urine

* Obst. Trans., vol. xxxvi.

and urea does not increase after delivery, the case passes into chronic Bright's disease.

The following are the quantities on the different days:—

Date.	Urine.	Urea.
June 7th	58½ ozs.	365 grains
" 8th	19½ "	133 "
" 9th	19 "	175 "
" 10th	22½ "	168 "
" 11th	17½ "	108 "
" 12th	24 "	188 "
" 13th	49½ "	305 " { Delivery 8.45 p.m. 14 ozs. urine between 8 and 12 p.m.
" 14th	66 "	351 "
" 15th	46 "	264 "
" 19th	57 "	456 " Fish diet.
" 22nd	45 "	405 "

Case II.—A. R. F., aged 39, admitted into the London Hospital July 13th, 1894. (Reported by Mr. E. Chichester, Resident Accoucheur, and Mr. Harrison, Clinical Clerk.)

Her previous history was that she had had five children, and with the exception of her confinements had had no illness during the last ten years.

On July 9th, about 2 a.m., she woke from sleep with a pain in her head so severe as to make her scream. She was unconscious for several hours. She threw her limbs about, but there was no definite order of movement. All the next day she seemed "dazed," but was otherwise well. On July 11th and 12th she seemed as well as usual. On July 13th, between 1 and 2 a.m., her husband was awakened by her heavy breathing, and found her unconscious. Dr. Dornford, of Old Ford, was sent for. He found unilateral convulsive movements present. He kept her under chloroform for several hours, and then sent her to the hospital. When admitted, the patient was sleepy from the effect of the chloroform. She could give no history. The facts above related were obtained from her friends. There were physical signs of seven months' pregnancy; the fetal heart was distinctly heard. There was no cardiac murmur, nor evidence of hypertrophy. There was no oedema. During the first day or two of her stay in hospital she was

very restless, constantly trying to get out of bed. She spoke rationally, but seemed unable to remember what had happened even a few hours previously. She passed urine in bed. She had a wild, stupid appearance, suggesting insanity. No fits after admission.

July 14th.—Her eyes were examined by Mr. Chichester, who found what he considered slight, but quite definite double optic neuritis; both discs were blurred, reddish and swollen, and vessels in the left eye had exudation round them.

After this the patient steadily and rapidly improved, and her mental condition by July 25th had become normal. Her sister thought she was still a little strange in her manner, but there was no peculiarity appreciable by one who had not previously known her.

Aug. 9th.—The optic discs were still rather blurred, but otherwise normal. Patient seemed quite well.

Temperature on admission was 99° . From July 15th to 19th it ranged between 99.5° and 100.8° , once (on July 16th) reaching 102.2° . Then it fell to 99° , and did not again exceed normal.

Sept. 12th.—Patient, in answer to an inquiry by letter, writes: "I have a fine little boy a fortnight old. I have had no headaches, or any bad feeling at all, and I am feeling better than I have felt for some time."

Nov. 20th.—Patient says she is quite well. Urine acid, sp. gr. 1024; no albumen; no sugar; 1.8 per cent. of urea.

This seems to have been a case, slight in degree and short in duration, of the acute renal disease which produces puerperal eclampsia. The late Dr. Matthews Duncan pointed out, in his translation of Braun on Puerperal Eclampsia, that the disease and its symptoms may be present without the fits.

In this case the disease seems to have come on with its usual suddenness on July 9th, and to have produced the symptoms which precede and accompany the fits—headache, restlessness, and unconsciousness—but no fits. Then it took a course towards recovery, and two days afterwards the patient was quite well. On the fourth day a recrudescence of the disease took place, this time attended with a few slight

convulsive movements. By the time the patient was admitted into the hospital the disease was on the road to recovery.

I have elsewhere shown (Obst. Trans., vol. xxxvi., and former papers therein referred to) that this acute disease is attended with the passage of a great quantity of albumen in the urine and great diminution in the quantity of urine and urea; and that in the cases which recover, recovery is marked by diuresis, with diminution in the quantity of albumen and increase in the quantity of urea. In this case the urine was not examined while the disease was acute. The examinations of the urine were made while the patient was getting well. They illustrate how recovery is attended with diminution of albumen, diuresis, and augmented urea excretion.

1. *Albumen*.—On admission the urine contained one-quarter of its bulk of albumen. Unfortunately the relative amounts of paraglobulin and serum-albumen were not ascertained.

Four hours after admission the albumen had sunk to $\frac{1}{4}$.

Six	"	"	"	"	$\frac{1}{4}$.
Twelve	"	"	"	"	$\frac{1}{8}$.
Fourteen	"	"	"	"	a trace..
Eighteen	"	"	"	"	there was no albumen in the urine.

During the rest of the patient's stay in hospital there was either no albumen or a faint trace only.

2. *Quantity of urine and urea*.—The following were the daily quantities of urine and urea. The difficulty in collection, as I have explained in commenting upon other cases, makes them erroneous in the direction of understating the quantities. But this error is common to all observations made upon women.

Date		Quantity of urine (ounces).		Quantity of urea (grains).
July 14th	...	18	...	173
" 15th	...	30	...	345
" 16th	...	32	...	362
" 17th	...	39	...	374
" 18th	...	40	...	352
" 19th	...	63	...	635
" 20th	...	52	...	450
" 21st	...	82	...	—
" 22nd	...	80	...	614
" 23rd	...	60	...	—

Duncan's case is worth quoting :—* It was the patient's sixth pregnancy. The face and hands were slightly cedematous. The legs were much swollen. There was much complaint of noise in the head and of weakness of the lower limbs. The first symptom to appear and the last (except the albuminuria) to disappear was pain in the back, near the base of the chest, round the sides, and in the epigastrium, where also there was tenderness on pressure. The urine was clear and of high colour, not very scanty, loaded with albumen. Very soon signs of death of the foetus became distinct, and it was soon after born dead. The process of birth occupied only a few hours in an evening. But from the morning of that day, and for about thirty-six hours afterwards, no urine was passed. The symptoms caused by local pain and tenderness of the kidneys were at the same time very acute. The persistent giddiness was intense, and although the light was painful to the eyes, and it was difficult to keep them open, she had to make constant efforts to do so, in order to assure herself of the unreality of the frightful dreams and visions that afflicted her. The first urine passed was in small quantity, and very turbid from lithates contained in it; and when heated became almost a solid clot. In ten days the albuminuria and symptoms of nephritis had almost completely disappeared. There was then a slight re-accession of albuminuria, with fibrin cylinders in the urine. But about the fourteenth day all traces of the disease had vanished.

Case III.—K. M., single, aged 30, admitted into the London Hospital June 30th, 1894. (Reported by Mr. E. Chichester, Resident Accoucheur, and Mr. Spellane, Clinical Clerk.)

Patient was a servant, a native of South Wales. On June 29th, at 3 a.m., she woke up feeling very sick, with a headache, and with her hands clenched. She remembered nothing more till 8 a.m., when she came to herself, feeling very "dizzy." She stayed in bed till 2.30 p.m., when she was brought to the hospital in a cab. Her fellow-servant said that she had screamed and made a great noise; and the doctor who had been called in stated, in a letter, that she

*Braun on Uræmic Eclampsia. Translated by J. Matthews Duncan, M.D. Note to p. 7.

had had a convulsion followed by coma. On admission, there were physical signs of four months' pregnancy. Patient said she had been regular until four months ago, since which she had seen nothing. She had had morning sickness for a fortnight. There was slight œdema of legs. No physical signs of cardiac disease. No retinal changes. Patient was well nourished and not anæmic.

She had no fit after admission. For the first fortnight of her stay in hospital she complained of headache and giddiness. Her appetite was good; there was occasional nausea, but no vomiting. The œdema soon went. She complained of occasional giddiness all the time she was in the hospital. Her temperature was throughout normal. She gained 3lbs. in weight while in hospital.

Urine.—(1) *Albumen.*—On admission, her urine contained half its bulk of albumen. The following day (June 30th) there was only one-sixth. On July 2nd there was a quarter; on July 3rd one-sixteenth. After this date there was either none or only a trace.

(2) *Quantity.*—During the first three days the urine was not collected. After that it was measured every day. Some was unavoidably lost with the fæces, and therefore the reported quantities are a little below the real excretion. The bowels, as a rule, acted once daily, occasionally oftener. The amounts collected varied from 32 to 59 ozs. per diem, the average throughout being 46·2 ozs. The difference between the amount at the beginning and the end of the period during which the urine was measured was trifling.

(3) *Deposit.*—On admission there was a deposit of urates, but no casts. On the fourth day the urine contained granular casts. After this the only deposit was of pus. The urine was acid throughout.

(4) *Urea.*—The percentage of urea was estimated on the fourth day (July 2nd); it was 3 per cent. On the fifth day it was 2 per cent. It was again ascertained from July 25th to 28th, when it varied from 1·2 to 1·8 per cent., corresponding to a daily excretion of from 300 to 400 grains.

When it was clear that the patient was doing well in all respects except that the quantity of pus was not diminishing,

the advice of Dr. Ralfe was sought as to the question whether labour should be induced. His opinion was that the present disease was pyelitis, and that there was no prospect of benefit from the induction of labour. The patient was therefore discharged on August 3rd. Subsequent inquiry has elicited a letter, dated December 25th, in which she says: "Baby was born December 4th, it is getting on well; I am getting strong again myself."

In this case we have headache, giddiness fit, coma, with a large quantity of albumin in the urine, suddenly coming on, and ceasing after a few days of rest in bed; then the ordinary signs and symptoms of chronic pyelitis persisting.

CASE OF MEMBRANOUS SORE THROAT IN ENTERIC FEVER.

BY WALTER G. SMITH, M.D.,

*President of the Royal College of Physicians of Ireland, Physician to Sir
Patrick Dun's Hospital.*

A YOUNG man, aged twenty-two, was admitted into Sir P. Dun's Hospital, December 10th, 1894, complaining of headache and of feeling sick. His illness commenced a week previously with shivering and vomiting. Two days after admission nervous symptoms set in, delirium and insomnia; no diarrhœa; stools light yellow, bowels usually relieved by enema. December 13th, rose spots were observed on the abdomen, and successive crops of these followed in due course. Hæmorrhage from the bowels occurred on the seventeenth day of the illness, and the patient passed through a severe attack of enteric fever, of about four weeks' duration, and then made a good recovery.

On the day of admission—*i.e.*, December 10th—he felt his throat getting sore, and next day found it very difficult to swallow anything; but at no time was there any tendency for fluids to regurgitate by the nose. The urine

contained albumen, which persisted for about a fortnight. On December 14th a grey membranous exudation was noticed on the uvula. In the course of a day or two this membrane spread until it completely covered the uvula, both tonsils, and partially enveloped the soft palate. It was tolerably easily detached in large coherent flakes, and was quickly renewed when removed. Sometimes masses of membrane were expelled by coughing. Little or no bleeding followed its detachment. The breathing was considerably interfered with, but the voice was not hoarse. The heart became extremely weak, pulse at times over 130, and the patient was dusky and livid for several days. By December 26th the condition of the throat had much improved, and on the 28th it was apparently quite well.

Some of the exudation was taken up on a sterilised swab, inoculated in a culture-tube, and handed over to Professor J. Alfred Scott.*

I have put the foregoing case upon record for several reasons. In the first place, the occurrence of membranous sore throat in enteric fever is a rare event, and I do not recollect having previously met with it.

Murchison ("Treatise on Continued Fevers," second edition, p. 557) states that several examples of enteric fever complicated with "diphtheria" had come under his notice, and mentions that Louis records three cases, Forget two cases, and Rilliet and Barthez six cases in children.

Of one case only Murchison furnishes details (*loc. cit.*, p. 585).

On the thirty-fifth day of an attack of enteric fever in a young man aged twenty-two the patient had difficulty in swallowing. When an attempt was made to swallow fluids, a great part was rejected by the nostrils. The dysphagia increased, and the patient died next day. The urine was albuminous. At the autopsy, in addition to the characteristic

* Dr. Scott kindly reported as follows:—The tube inoculated on December 17th was incubated in the brood-oven at 37 deg. C. On the next day numerous colonies were visible, and from these streak-cultures were made on plates of agar and gelatine. The subsequent colonies proved to be streptococci. No bacilli resembling the Klebs-Löffler bacillus were seen. Another tube inoculated on December 31st yielded somewhat similar results, only cocci and streptococci developing.

lesions of enteric fever in the ileum, the larynx was found to be diseased.

Epiglottitis and upper third of larynx swollen and red, and the mucous membrane covered with a continuous thin false membrane becoming broken up into shreds at its lower margin. No ulceration.

In the next place, it is desirable to report such cases as contributory mites towards the solution of the practical and important question, viz., What do we really mean by diphtheria, and how far is this term strictly applicable to certain dangerous forms of sore throat which are liable to occur in continued fevers, more especially in scarlatina? Here we at once get upon difficult ground. For it is evident that the word "diphtheritic" is used loosely and in an ambiguous manner. In addition to its original and restricted meaning as the adjective belonging to the disease named diphtheria, it is often used in a wider sense as an expression of a certain pathological process which tends to result in the formation of a dense false membrane interwoven with the tissue from which it springs. This process may be witnessed as a local phenomenon on the skin or mucous membrane, apart from any relation to the specific disease "diphtheria"; so that the word diphtheritic is used almost haphazard in a clinical or anatomical or etiological sense. Hence we are led to ask ourselves—How and by what tests are we to discern what is really diphtheria, and what is not?—restricting the term diphtheria to the affection caused by Löffler's bacillus.

And it must be confessed that no purely clinical sign or assemblage of symptoms will yield a thoroughly satisfactory answer. Neither albuminuria, nor enlarged cervical glands, nor locality of apparent origin of the false membrane; neither the appearance of the throat, nor the aspect and general condition of the patient can go beyond affording a strong presumption in many cases.

We are left in the lurch when most in want of definite information. Clinical observation needs to be supplemented and reinforced by skilled bacteriological examination. This method is a recent and very valuable acquisition, and turns a searchlight upon a dark corner of pathology.

In regard to sore throats we have, I think, arrived at this point:—

Membranous sore throat and diphtheria of the pharynx and larynx are no longer synonymous terms. For it appears to be clearly made out that there are various forms of membranous sore throat, and that causes other than the diphtheria bacillus are competent to cause this morbid condition.

It were greatly to be wished, and it is to be hoped, that the near future will see the more general adoption of the admirable system organised by the Board of Health of New York. This department has established a number of (about forty) depôts throughout the city, where culture-tubes, with directions for making the inoculations, can be obtained, free of charge, by any physician.

These tubes are collected by the department each afternoon, taken to the laboratory, and placed in an incubator. The following morning they are examined microscopically, and the bacteriological diagnosis forwarded by post before twelve o'clock, to the attending physician, and to the Department Inspector of the district. (*Cf.* An excellent paper on the Diagnosis of Diphtheria, by Dr. Biggs, of New York, *Journ. of State Med.*, Nov., 1894.)

The production of a "false membrane" seems to be associated with the operation of some energetic irritant.

As illustrations of the circumstances under which we meet with membranous inflammation may be mentioned:—

I.—Thermal irritation. Burns occasionally take on a "diphtheritic" course, *i.e.* the surface becomes coated with a fine and closely adherent yellowish fibrinous layer.

II.—Chemical Irritants. Here we may distinguish (*a*) Inorganic chemical substances, *viz.*, Ammonia. I have seen a burn produced on the skin by Liquor Ammoniaë become coated with a dense, tough membrane, which took six weeks to disappear. (*b*) Organic poisons, *i.e.*, derived from various micro-organisms. Of these may be cited as examples:—

I. Micrococci, *e.g.* Scarlatina, and the more common forms of membranous sore throat.

II. Bacilli, *e.g.* Bacillus Diphtheriaë.

Clinically, there are highly important differences between

the coccogenous and the bacillary sore throats, for while the latter are very infective, the former seem rarely to spread from patient to patient. Moreover, there is a wide difference in the mortality attending on these two varieties of sore throat.

Pending a diffusion of more accurate knowledge than we at present possess, I venture to suggest that no case of sore throat be described or reported as "diphtheria," unless the clinical diagnosis be confirmed by cultures, made by a competent bacteriologist. Membranous sore throat is a simple and sufficient term for purely clinical purposes.

Obviously, a vast amount of the literature that has grown around the therapeutics of "diphtheria" loses much of its interest in the light of modern inquiries, and the value of so-called specific cures and remedies is largely discounted. For it is plain that no statistics of treatment can be of any real service unless we know what it is we are treating.

EPITHELIOMA VULVÆ.*

BY D. BERRY HART, M.D.

Lecturer on Midwifery and Gynecology, Surgeons' Hall, Edinburgh; etc.

MALIGNANT disease of the vulva is one of the rarest forms of malignant disease of the genital tract, and is generally considered as forming about 1 per cent. of the latter. Although a condition easily recognised and with a definite line of spread, we know less about it than we should do. Its nomenclature is unsatisfactory, and the ultimate sites of its invasion are guessed more or less from our knowledge of the anatomical distribution of the lymphatics than from details of many specimens. It is impossible often to follow up the ultimate result of one's operative cases, and then it may be difficult to get an adequate examination after death. I mention these

* Part of a lecture delivered at Surgeons' Hall.

facts to you, not in any carping spirit, but to let you know the importance of careful record of facts as to such by those of you who have the opportunity afterwards.

As we shall see, however, presently, Küstner has published an account of the *post mortem* conditions in one of his cases.

The most serious fact is that we do not cure these cases by operation or by any form of treatment. Even after an apparent thorough removal, recurrence usually takes place, and the patient ultimately dies from this. We operate, therefore, at present, to remove a growth which, apart from its deadly nature, is in a locality where it interferes most seriously with the patient's comfort.

I have had under my care six cases of vulvar epithelioma. Of these I operated on five. Two were too advanced for any interference, and I lost sight of them.

In three of the cases I made a careful microscopical examination of the specimens, and had a drawing prior to operation made of one of them (*v. Fig. 1*).

Two of the cases are briefly as follows, the other cases being of a somewhat similar nature.

Case 1.—Case of epithelioma vulvæ in patient aged 78; removal; recovery; no return as yet (six months).

This case occurred in the practice of Dr. W. Lundie, and his report is as follows:—

“Miss ———, aged 78, called on me on June 9th, 1894. She was complaining of scalding after passing her urine.”

History.—She had felt for more than a year a special itchiness of the part, which induced her to rub it with the towel after her bath in the morning, and frequently upon doing so she noticed blood upon the towel. For the two months previous to the above date she had great discomfort in walking and sitting, but the most urgent symptom was the scalding of the urine after passing it. On examination I found a tumour involving the greater part of the left labium majus, especially the middle portion of it, extending well forward to close upon the meatus urinarius and posteriorly to near the fourchette. This labial mass had a densely indurated base, projected beyond the margin of the labium, and presented a reddened, irregular, excavated, sloughing surface, ovoid in

shape and extending well into the vagina. The whole mass, however, was, when well grasped by the base, easily movable. The glands in the groin were unaffected.

The diagnosis was that of an epitheliomatous tumour, which microscopic examination of a scraping corroborated.

Dr. Hart saw her on July 3rd, when the mass was entirely



Fig. 1.—EPITHELIOMA OF RIGHT LABIUM MAJUS.

removed under chloroform and the parts brought together by the continuous catgut suture.

The patient bore the operation well, and made a continuous and rapid recovery. The parts healed well. They were douched twice a day and dusted with iodoform and bismuth. She got up on August 4th, and has been better in health since than she has been for more than a year.

When examined on October 5th the parts showed a very healthy appearance, with not the slightest trace of recurrence.

Case 2.—Mrs. B——, 59, x-para, from ——, was admitted
 1894 Ward 24, Royal Infirmary, Edinburgh, on September 26th,
 with an ulcerating mass occupying the posterior two-
 thirds of the right labium, and extending about one inch into
 the vagina. The growth was bluish red, warty on the surface,
 hard and indurated. Inguinal glands matted and somewhat
 enlarged.

History.—Eight years ago noticed a growth in same position; it was about the size of a terminal phalanx, and was removed in Glasgow. It recurred twelve months ago, a little behind old scar, and began to ulcerate three months ago; was very painful, especially on micturition.

Operation.—Ulcerated mass in labium removed on October 1st by Dr. Hart, and parts brought together with catgut suture. Discharged on November 10th with symptoms much improved, but without complete healing, the unhealed portion showing little tendency to granulate.

Case 3.—M. W——, 47, married, x-para, admitted to Ward 24 in April, 1892. There was a double tumour the size of a filbert, with a reddened surface on the upper surface of right labium minus, and extending outwards to the right labium majus. The tumour was first noticed six months ago; has pain and frequency of micturition.

Operation.—Mass removed with scissors; surfaces apposed with catgut suture in tiers. Dismissed with parts healed on April 30th, 1892.

Readmitted October 20th, 1892, with right inguinal glands affected. No further operation.

In each of the cases, parts of the mass removed were at once placed in saturated perchloride of mercury, and after careful hardening in spirit, embedded in paraffin and sections cut with the Cambridge microtome.

From the history and examination of these cases, as well as from those recorded by West, Küstner, Gönner, Simmons, J. W. Taylor, and others, I can give you some systematic account of this condition and its treatment.

The epithelioma may affect any part of the vulva, but it is usually the labia majora or minora, singly or combined, or the clitoris. Its spread is outwards—i.e. as the

lymphatics run—and the first glands affected are the inguinal ones of the same side. The infiltration then spreads into the pelvis, and ultimately we get the hypogastric and other pelvic glands affected. Küstner, in one of his cases notes, on *post mortem* after-recurrence, that there was miliary carcinosis of the lungs, carcinoma of the heart, liver, spleen, retroperitoneal lymph glands and right kidney. A glance at Sappey's plates or Poirier's will explain this to you.

I may say here, in passing, that malignant infiltration of the inguinal glands parallel to Poupart's ligament almost always means that the source of their infection lies in the vulva, or lower fourth of the vagina, but we may get this inguinal infiltration also in sarcoma of the pelvic connective tissue, as a gland lying on the inner aspect of the obturator foramen has an anastomotic communication with the inguinal glands. The round ligament lymphatics also open into the groin glands.

While, therefore, the epithelioma increases in bulk and often involves the vaginal edge, its main and rapid spread is outwards.

Cases 1 and 2 were both epitheliomatous, but the first had an excavated surface, the second a papillary. The first would be termed cancrroid or scirrhus by some, but it is merely a difference of degree in the malignant infiltration, as the independent microscopical examination by Dr. Gulland shows. His report is as follows, and I may mention that he did not see the tumours, but merely the prepared slides.*

"Dr. Berry Hart handed to me several sections of two carcinomata of the vulva, stained in various ways, with hæmatoxylin and eosin, alum-carmine, and the Ehrlich-Biondi mixture. The two specimens are alike in being squamous epitheliomata, but differ remarkably from one another in almost every detail.

"The first, from the patient, Case 2, is a very typical tumour. Long finger-like processes, branching and re-uniting in every direction, pass down from the deeper layer of the surface epithelium into the subcutaneous connective

* Case 1 was prepared and cut by myself. Case 2 at the R.C.P. Laboratory, Edinburgh.

tissue. The extreme surface of the growth is somewhat degenerated, but a little below the surface cell-nests are numerous and well formed. Still deeper the columns of cells are growing very rapidly, and the number of mitotic figures in the cancer cells is quite unusually large. The growth here seems to be too rapid to allow of the formation of cell-nests. The individual cancer cells are very large, and contain a relatively large amount of protoplasm; they often show the character of 'prickle-cells' exceedingly well. (v. Fig. 2.)

"The growth of the tumour has obliterated a great deal of

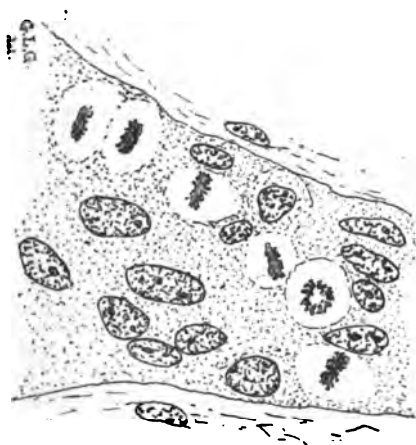


Fig. 2.—FROM CASE 2, SHOWING ACTIVE CELL DIVISION.

the subcutaneous connective tissue. What remains is transformed into a stroma with a very considerable infiltration of leucocytes.

"The second tumour, from the patient, Case 1, is an epithelioma of obviously slower growth. The ingrowing columns of cells are narrow, and are widely separated from one another by large areas of unaltered, or almost unaltered, connective tissue, and the surrounding leucocyte infiltration is slight in amount. There are comparatively few cell-nests, and those which are present are badly formed. The individual cells of the tumour are small, the 'prickle' arrangement is

not well marked, and mitotic figures, though they are present, are not nearly so numerous as in the last case. (v. Fig. 3.)

“The contrast between the apparently feeble vitality of the latter tumour and the strong and purposeful growth of the former is very striking.”



Fig. 3.—SECTION IN CASE 1.

x 50

In regard to treatment, we have to confess, as I have already said, that we cannot cure, and that recurrence is, in our present state of knowledge, unfailing. It may be slow or rapid, but it never fails. It is right, however, to operate, as the removal of the mass is a great relief to the patient and defers recurrence probably. When the glands are unaffected

the removal of the affected part is easy. It should be done as follows with knife and scissors, and not with the barbarous cautery.

The patient being chloroformed and placed in the lithotomy posture, and the parts scrupulously disinfected, the growth is seized at its base with the left hand (in the case of left-sided tumour), pulled well out, and an elliptical incision made on its left side. The incision is deepened and kept parallel and sufficiently below the base until the vaginal side is reached, and then the attachments on the inner side are severed with scissors.

The bleeding is not as a rule excessive, and can be easily controlled by pressure-forceps and catgut ligature. The elliptical raw surface is now brought together with the continuous catgut suture, two tiers being usually sufficient in addition to the approximation of the skin edges.

Union is usually good, but may be delayed, and there is no doubt in my mind as to the great superiority of this method as compared with the use of the cautery.

If the inguinal glands are affected they may be removed, but, so far as our knowledge goes, not with any appreciable benefit. Küstner recommends the removal only of those superficial to the fascia lata, as one thus avoids all risk of injury to the femoral vessels. Rupprecht has advised a more thorough clearing out of the femoral space, with division of Poupart's ligament and removal of the glands from the sheath of the femoral vessels if necessary. He makes an incision from the pubic spine to the anterior superior spine, and joins the ends by incisions passing below the glands. This flap he removes *in toto*, ligaturing the vena saphena if necessary. He records one case, at any rate, free after three and a quarter years.

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MEDICAL AND SANITARY AFFAIRS IN EGYPT.

BY GREENE PASHA,

Surgeon-Lieut.-Colonel, Army Medical Staff (retired); late Director-General Egyptian Sanitary Department.

WHEN hygienists reflect that a very few years ago all sanitation in Egypt was a dead letter; that although the sanitary services, originally established by Clot Bey, were still nominally in existence, they had long since ceased to render any beneficial returns; nay more, that in consequence of incapable administration at headquarters the provincial offshoots from these services, so admirably designed in the first instance for the well-being of the *fellahin*, had gradually fallen away, till at length the various "Inspectorates" had one and all become no better than so many centres of corruption and oppression, the fact that unmistakable signs of reformation and progress are manifest in the last annual report* issued by the head of the reorganised Sanitary Department should be a source of considerable satisfaction to them.

The first nomination of an English medical man in the Egyptian Civil Service took place in 1884, when Dr. Sandwith was appointed Sub-Director of Sanitary Services, with an Egyptian, who was a Parisian graduate, as his chief. In order to convey an accurate idea of the condition of things then prevalent, I cannot do better than quote from the anonymous writer of an article which appeared in the *Fortnightly Review* during 1888, under the title of "Our Task in Egypt":—

"The cleansing of the stables of Augeas is a fitting proto-

* Ministry of the Interior. Annual Report of the Sanitary Department, 1893. Cairo: National Printing Office, 1894.

type of the duties imposed upon the Director-General of the newly-created Administration of Sanitary Services and of Public Hygiene. To say that public health was utterly neglected in Egypt would be an understatement amounting to flattery of the authorities of previous years. The condition of the country was the distinct negation of sanitary science."

As far as regards insanitation the Augean simile applies perfectly, but here its appropriateness unfortunately ends. Hercules got rid of his filth in the river Alpheus, whereas one of the principal problems before the new Director-General was how to preserve the Nile from contamination. Moreover, the son of Alcmena was munificently equipped for his task, but his modern representative's budget was cut down to the last piastre. Egypt has ever been the land of brick-making without straw, as the sanguine Director soon found to his cost. He was expected to build a sanitary pyramid, so to speak, but the resources placed at his disposal were insufficient for the erection of scaffolding.

With totally inadequate means, and in spite of opposition of every kind, both foreign and indigenous, a large amount of solid, enduring sanitary work has nevertheless been accomplished during the past decade; and most certainly it is not the fault of the workers that the edifice is still so incomplete. The foundations of a Temple of Hygiene are being gradually laid, and although as yet there may not be much to show above ground, a commencement has at all events been made, and the labours of future builders (with, it is to be hoped, more ample budgets) have been simplified and rendered comparatively easy.

The correctness of this statement will readily be acknowledged by any observant person who knew Egypt in the old days and has recently revisited the country; but, unfortunately, the number of individuals in this category can only be very limited, especially amongst busy medical practitioners, to whom, as a rule, holidays of a sufficiently long duration to admit of Eastern sojourn are an unhopcd-for luxury. A somewhat extended notice of Rogers Pasha's able report will therefore probably prove acceptable to the readers of *The*

Practitioner, inasmuch as they will thus be enabled to form their own judgment with respect to the actual condition of Egypt, and to appreciate the work of sanitary reformation that is now going on, under enormous difficulties, in that historical land where England has incurred such grave responsibilities.

In common with the vast majority of educated Britons, members of the medical profession naturally take a great interest in the country, on account of the unrivalled archæological treasures contained within its narrow confines ; but there is also a special reason which renders it most important that English doctors should be thoroughly acquainted with Egypt in general, and more particularly with its sanitary condition and prospects. Within the last few years it has become the fashion to send all kinds of patients there during the winter and early spring, and although in many instances—in fact, in most—the health-seekers derive benefit from their experience, still, occasionally the reverse happens. The Egyptian climate is not a universal panacea ; the water of the Nile is not—as the natives would have us believe—a remedy for all the ills that human flesh is heir to ; and if a knowledge of the local conditions capable of affecting disease were more widely disseminated, not only would many a sufferer be prevented from taking an unsuitable and expensive journey, but the deservedly high reputation of the country as a sanatorium would likewise be spared the risk of impairment.

As a contribution to this desirable end, I propose to extract, to the best of my ability, the pith of Rogers Pasha's report, supplementing the data thus afforded with information derived from other sources.

HOSPITALS.

The number of patients admitted into the eighteen hospitals that are kept up by the State in various parts of the country was 15,882 during the year under report, against 15,170 in 1892 (and 11,674 in 1887). This increase was foreseen, but the budgetary provisions for food, etc., remained, nevertheless, unaugmented. The natural consequence was a deficit, but, owing to a fortunate windfall, the sum to be made good did not exceed ££400. Towards the end of the year a new sliding

scale of charges was introduced, and the duty of collecting the money disbursed by patients who were considered able to pay was transferred from the local authorities to the medical officers, the result being an increase of about 25 per cent. in the receipts. As a rule, in Egypt, earnings of every description are poured into the general treasury, but in this case the funds accruing were apparently devoted towards defraying the cost of the extra diets.

In commenting upon the modified system of payment which he has introduced into the State hospitals, Rogers Pasha says:—"The practical result of its success will be to extend the benefits of hospital treatment without any immediate demand for an increased credit. . . . At the same time, I would strongly deprecate the idea that anything approaching finality has been reached in providing for the hospital requirements of the country, for as the hospitals become more appreciated, as they are undoubtedly becoming daily, the duty will devolve upon the Government of providing, not only increased accommodation in existing hospitals, but also, I trust, new hospitals throughout the country."

It is satisfactory to note that the Director-General has somewhat modified his views regarding the duty of the Egyptian Government in connection with hospital accommodation. In a Parliamentary Blue-book (Egypt, No. 3, 1892) Lord Cromer, then Sir Evelyn Baring, quotes Rogers Pasha as follows:—"There is a tendency for the Sanitary Department to drift into becoming a government machine for the treatment of sick, instead of an organisation for the prevention of disease. In no other country do the care and treatment of the sick devolve entirely on the State."

A more extended experience has doubtless served to convince Rogers Pasha that in most things, sanitary and otherwise, Egypt occupies a position entirely *sui generis*, and that for the present it is impossible to legislate for its people on lines applicable to other nations. Many a long year has yet to pass away, I fear, before the *Fellah* can be trusted to run alone—before he can be considered fit to emerge from a state of tutelage; to provide for his own requirements, and dispense with the fostering care of a paternal government in matters

that elsewhere are a purely domestic concern. The nefarious effects of centuries of oppression, and of misgovernment of every description, cannot be effaced in a year or two. The millions that swarm in the valley of the Nile have never been used to the strong food of freedom; the unwonted nutriment must be administered to them very slowly, in minute portions, and with the utmost judgment, for fear of surfeit, that the last state be not worse than the first.

Kasr-el-Aini Hospital.—In the words of the Director-General:—"The work done by Kasr-el-Aini Hospital retains its high standard both of public utility and professional efficiency." 4,776 in-patients were treated during the year (the number in 1887 having been 3,834). The general mortality was equal to 13·2 per cent.; but out of a total of 631 deaths, 467 took place in the Medical Division, where the in-patients numbered 1,638, and were frequently admitted in an almost moribund condition. Excluding these, the hospital death-rate was only 5·2 per cent. 976 operations were performed, not including eye cases, with the following results:—Cured, 706; relieved, 78; no benefit, 52; died, 75 (7·6 per cent.); remained, 65. The ophthalmic operations numbered 1,037. Of these, 992 were successful, 38 patients derived benefit, and 7 were unrelieved.

With reference to the building in which this great hospital is housed, Rogers Pasha makes the following remarks:—"As stated last year, £E22,000 is being spent in repairing the old Kasr-el-Aini Hospital, and as the works go on I am more than ever convinced that it would have been a true economy to have entirely condemned the old building and built a new hospital on modern plans. The works of demolition have clearly shown how rotten was the construction of the old building."

In addition to the large amount here mentioned, considerable sums have been spent annually in preventing the quondam barracks from becoming a complete ruin. Were the whole expenditure under this head to be totalled up, the aggregate would not be far short of £40,000. It is easy, of course, to be wise after the event, but in this case the stock criticism, were it to be advanced, would be misplaced. Here is an abstract from the already referred to report for 1887,

which shows that the lamentable waste of money which has taken place is not the fault of the Sanitary Department:—

“During last summer considerable time and study were devoted to preparing designs for an entirely new hospital for Cairo. This was planned on the pavilion system, similar to the latest constructions of a like character in the principal towns both of Europe and America, but the want of funds has prevented any definite decision being taken as to its erection.”

The estimated cost of the projected hospital was £70,000, and the idea was to build it in blocks involving an expenditure of £10,000 per annum. The Khedive thought highly of the plans, which doubtless still exist, but the financial authorities could not, or would not, see their way to finding the money. Even now the question whether it is worth while to sink any more capital in Kasr-el-Aini is one well worthy of consideration; but no time should be lost.

The Cairo Lunatic Asylum.—647 patients were admitted during the year, against 670 in 1892 (in 1887 the number of admissions was 460). It is a remarkable fact that there is only one lunatic asylum in Egypt, and that errant lunatics, other than idiots, are rarely heard of. Rogers Pasha is unquestionably justified in his contention that the establishment should be put on a proper footing. His remarks are as follows:—

“The Cairo Lunatic Asylum has been provided with a new kitchen, new baths, lavatories and laundry, all urgently required; but the building is structurally very defective, as any classification is most difficult, especially on the female side. There is a total absence of separate rooms, which are a prominent feature of modern Asylums. As stated last year, the services of a European specialist in Lunacy are urgently required if the Asylum is ever to be placed on a proper basis of organization.”

When reform was first attempted under English auspices this asylum was in a fearful condition, “a den to shudder at, where the miserable patients were chained to the walls of their cells in the midst of ordure and filth of every description.” Under the circumstances that then obtained it was

impossible to carry out thorough reformation, and the reformers had to be content with small mercies; but now that the finances of Egypt are in such a prosperous condition it is high time that the solitary asylum for mental alienation, in a country with a population of six or seven millions, should be placed above reproach.

Referring to the provincial hospitals, Rogers Pasha says :—

"The Suez Hospital has been considerably improved, most of the wards have been repaved in tiles, those on the upper floor enlarged, an autopsy room built, baths, wash-house and latrines remodelled, and hot water supplied. In the other hospitals only minor repairs have been carried out. From all sides come demands for reconstruction and repairs to the existing rotten buildings, which it is impossible to comply with owing to deficiency of funds. Such is hardly the moment to reduce the credit for the current year by £2,000, and I trust that in 1895 it may be restored to its original figure. . . . The question of Leprosy remains unsolved, and two thousand lepers are wandering about Egypt for whom no asylum or any form of provision exists. The wants of the country in all directions are many, but I can imagine no better object to which a small portion of a large Reserve Fund could be applied than in providing suitable asylums for the indigent, incurable, and lepers, and in the construction of urgently required provincial hospitals."

It is scarcely necessary to say that I most cordially endorse these admirable remarks. The Egyptian reserve fund now amounts to between three and four millions sterling. A small portion of this "idle money" would enable the head of the Sanitary Department to carry out many invaluable reforms. I believe that the Egyptian financial authorities are quite willing to meet him half way; the opposition comes from without, and must assuredly be owing to inappreciation of the immense interests at stake. Never had diplomacy a better chance of obtaining the suffrages of intelligent humanity than at present. If our diplomatists can bring about the release of the Egyptian "economies" in order to apply an appreciable portion thereof to sanitary requirements, they will earn for themselves undying fame.

The Month.

"Quidquid agunt homines."

THE numerous letters of congratulation on the appearance and contents of my first number—which had to be produced in great haste and under many other disadvantages—encourage me to hope that *The Practitioner* will not lose anything of its good repute in my hands. It is impossible for me to acknowledge these communications—many of which are from professional brethren personally unknown to me—individually. I therefore take this opportunity of thanking my correspondents for their expressions of goodwill. I may here add that *The Practitioner* is chiefly intended to meet the wants of that large body of practitioners who have little time for reading, but who yet wish, in the words of Matthew Arnold, "to know the best that is said and thought in the world" of medicine, and I shall always be glad to receive suggestions as to how this object may be more fully attained.

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The New Year's honours, if, as usual, somewhat meagre as far as our profession is concerned, have at any rate been thoroughly well bestowed. There are no two men more worthy of such honour as the Sovereign can give than Sir Russell Reynolds and Sir John Erichsen, and there are none whose selection for the distinction could have been more fully ratified by the judgment of their profession. For my own part, I cannot help feeling that the distinction should in each case have been conferred long since; it is satisfactory, however, that it has come at last. The Crown might, indeed, find some better way of doing honour to those to whom honour is due in the medical profession than the bestowal of titles which are often flung to fill the maw of an importunate party hack,

or given in payment for that kind of political support which takes the form of cheques. Peerages are open to the same objections, and there is something incongruous to my mind in the idea that men whose work has been the relief of suffering and the betterment of human life should be rewarded in the way that is deemed most appropriate for successful cultivators of the art of scientific slaughter and manufacturers of the materials of intemperance. Why should not distinguished members of the medical profession be sworn of the Privy Council? The Privy Council itself would be greatly strengthened by the infusion of a new element representing that profession which, according to Mr. Gladstone, is at no distant time to be the greatest power in the State. There is a special fitness in such a distinction for men whose training and experience must make their advice on matters relating to public health of particular value, and it is a curious anomaly that the Crown has hitherto had no medical men among its Councillors. Professor Huxley is only an apparent exception, for the honour in his case was conferred in recognition of his scientific eminence and his services in various public capacities.

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Of Sir Russell Reynolds as President of the Royal College of Physicians it hardly becomes me, who am not a member of that august body, to speak; but from all that I hear he is in every way a worthy successor of Clark and Jenner. As a physician he achieved the highest distinction almost without an effort. Success came to him without any of the weariness of hope deferred that makes so many a stout heart sick. Of Sir Russell Reynolds as a teacher it is enough to say that his light was not dimmed even by that of Sir William Jenner teaching in the same hospital. He had an extraordinary power of intellectual stimulation, and his lectures were so graceful in style and so rich in apt illustration that they held the attention of the idlest and aroused the interest of the dullest. It is not, perhaps, generally known in the profession that in addition to his medical writings Sir Russell Reynolds has made at least one excursion into the field of pure litera-

ture in the form of a novel written, I believe, in conjunction with his brother, the Rev. Dr. Henry R. Reynolds, Principal of Cheshunt College, and published anonymously. I have not had an opportunity of reading the book; but Sir Russell's Introductory Address of thirty years ago, republished a few weeks ago by the *Lancet*, shows that he has at least one of the qualities that go to the making of a successful novelist—viz., skill in characterisation.

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Sir John Erichsen represents all that is best in the traditions of English surgery which, as Billroth says, has since the days of John Hunter had "about it something noble." His career has a special interest for me, as in his early professional life he devoted a considerable amount of attention to skin diseases, on which he wrote a book which may even at this day be read with profit. Thirty years ago Sir John Erichsen's operations at University College Hospital were among the surgical sights of London which students from other schools and visitors from foreign countries flocked to see. Yet on his first appointment he had had difficulties to contend with which might have dismayed a weaker man. The medical student of the "forties" was an animal *feræ naturæ*, as different from the decorous and examination-ridden youth of the present generation as Squire Western from the country gentleman of to-day. I have been told that at Mr. Erichsen's first operation in the hospital theatre one of the students expressed his disapproval by throwing a ball at his head; the missile reached its mark, but without disturbing the self-possession of the operator. This little morning mist of unpopularity, however, speedily melted away before the splendid qualities of the man. It is an interesting fact that Sir John Erichsen's first house surgeon was Sir Joseph Lister; the same post was afterwards held by Sir Henry Thompson. His pupils, however, are not to be counted merely by the number of those who were privileged to hear the living voice of the master; his great work has for more than forty years been turned over with nightly and daily hand by students, and constantly referred to for

guidance in difficulty by practitioners. It has been translated into the principal European languages, and even into Chinese, and there is no surgeon whose teaching has left a deeper impress on the mass of the profession than that of Sir John Erichsen. It would have been more than a personal slight—it would have been an insult to the profession—if such a man had still been refused the public recognition to which he was entitled. To him and to Sir Russell Reynolds I add my modest tribute of congratulation and heartily wish them *In plurimos annos!*

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On January 11th Sir Joseph Fayrer's long and honourable official life came to a close under the operation of the age rule. For the last twenty years he had been President of the Medical Board at the India Office, and his services in that position have been so valuable that his retirement is an almost irreparable loss. Sir Joseph's career has been so remarkable that a sketch of it will no doubt be interesting to some of my readers. He is the second son of the late Commander R. J. Fayrer, R.N., and was born at Plymouth in 1824. He received his early education from private tutors, and he studied medicine in Edinburgh, London, and some of the Continental schools. After qualifying (in 1847) he became a surgeon in the Navy, and saw some active service. In 1849 he entered the Medical Department of the Army, which, however, he left in the following year on receiving an appointment as Assistant Surgeon in the service of John Company, which was then a career offering much greater inducements to men of marked ability than it is in these days of unreliable warrants and depreciated rupees. Sir Joseph Fayrer found his first opportunity of distinguishing himself in the Burmese War of 1852, and so well did he avail himself thereof that at the close of the campaign he was appointed Residency Surgeon and Assistant Political Agent at Lucknow. His splendid conduct during the Mutiny is writ large in the records of that terrible time, and "Dr. Fayrer's House" at Lucknow is associated with some of the most stirring events in that memorable siege. For his services during the Mutiny

Sir Joseph Fayrer was decorated and promoted. When things were quiet he came home, and took the degree of M.D. at Edinburgh in 1859. On his return to India he was appointed Professor of Surgery in the Calcutta Medical College, and this chair he continued to occupy with the greatest advantage to the school and the greatest credit to himself till 1874, when he left India. Of the experience gathered and the additions to the sum of knowledge made by him during this period he has left permanent records in his *Clinical Surgery in India*, published in 1866, and his *Clinical and Pathological Observations in India*, which appeared in 1873. He was President of the Medical Faculty of the University of Calcutta, and of the Asiatic Society of Bengal; and in the midst of the enormous work which his multifarious official duties and his professional engagements entailed he managed to find time for purely scientific research, of which his great work on the poisonous snakes of India is the outcome. He was so unquestionably the foremost man of his profession in India that when the Duke of Edinburgh, and afterwards the Prince of Wales, visited our Great Eastern Empire he was specially selected to accompany them on their tour as their medical adviser. The manner in which he discharged this responsible duty won for him the confidence and lasting gratitude of his Royal charges. While in India Sir Joseph Fayrer was best known as a surgeon, and there can be no better proof of the versatility of his powers than the success with which he transformed himself into a physician on taking up his residence in London, where he has long been one of our leading authorities on tropical diseases. In addition to his professional and scientific requirements, Sir Joseph is an accomplished linguist, and in particular has a knowledge of the language and literature of Italy, which is rare even among professed scholars. He has been honoured by the Crown, and foreign Governments and learned bodies have showered distinctions upon him, but I am sure I am only giving voice to the general feeling of the profession when I say that such a record of service as his deserves something more than a letter of thanks from the Secretary of State for India.

Another member of the profession who is certainly entitled to a greater meed of recognition than he has yet received is Leander Starr Jameson, M.D. Lond., and Administrator of Mashonaland and Matabeleland. His public career speaks for itself. He has done the State a kind of service which the Germans consider worthy of special honour; he is an extender of the Empire. For such a man a C.B., which is the smallest coin in the currency of titular distinction, is absurdly inadequate. My personal acquaintance with Dr. Jameson is of the slightest, but I number some of his most intimate friends among my colleagues at St. Mary's, and have thus heard much of his early career. He is one of those men whose "personal magnetism" makes itself felt by all who come within his sphere of influence. He is a born leader of men. It was mainly due to his extraordinary courage and tact that Mashonaland was opened up to British enterprise; he took his life in his hand in his mission to Lobengula, and it was his medical skill which, by easing the gouty old savage of his pain, was the means of getting the concession. These qualities have made "Dr. Jim," as he is familiarly known in South Africa, as popular with the rough pioneers of civilisation over whom he holds sway, as his professional knowledge, integrity of character, and kindness of heart, hidden under a somewhat brusque manner, had made him liked and respected by his medical brethren.

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The dinner of the Laryngological Society, at which I had the honour of being present as the guest of the President, Dr. Felix Semon, was one of the pleasantest functions of the kind I ever took part in. The success of the affair was mainly due to the admirable social generalship of the President. The ordinary British dinner is dull, and the ordinary British ritual of solemn toasts, with antiphons of heavy speeches, does not help to make it livelier. The general feeling of the guests is that of poor Christopher Sly in the play, "'Tis a very excellent piece of work: would 'twere done!" At the Laryngological dinner, on the other hand, the President was not only bright in himself but the cause of brightness in

others. His social *verve* carried all before it, and I can only hope that the lesson which he gave us in chairmanship will bear fruit in relieving the boredom of the British dinner.

Among those present at the dinner were the president of the Royal College of Physicians, Sir George Johnson, Dr. Pavy, and, most interesting of all, the venerable Signor Manuel Garcia, to whom medicine is indebted for the laryngoscope. The famous *maestro*, though now in his ninety-first year, acknowledged the drinking of his health in a speech which showed that age had not withered his mental faculties. Sir George Johnson told a good story which illustrates the extraordinary firmness with which the "one man one job" principle is rooted in the public mind, as far as the medical profession is concerned. He was once sent for to see a lady who had consulted several times for some affection of the throat. He found that she was suffering from Bright's disease. When the husband was informed of his wife's condition, he at once sent for another physician, taking it for granted that Sir George Johnson's knowledge did not extend to the kidneys. The poor lady died in a few days of her renal complaint, having very possibly fallen a victim to the absurd delusion that each man must have his own little "allotment" in the human body, and must not trespass on any other.

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In the last number of *The Practitioner* I mentioned, in speaking of the recent meeting of the General Medical Council, that the honorarium which the Pharmacopœia Committee suggested should be paid to Professor Attfield for his services in the preparation of the new edition of the *Pharmacopœia*, had been regarded as too liberal. In reference to this matter I have received the following "official" communication:—"Dr. Attfield's pay does not compensate him really; he has assistants to pay, tedious and expensive analyses to make, and much time must be given to such work. Further, it is a mistake to think that he has control over the work except as a pharmacist. All the medical authorities are consulted on

the additions to, the removals from, and the changes required in the *Pharmacopœia*. Already committees of the three Royal Colleges are engaged on the subject; so, too, some of the other bodies, notably Cambridge, the University of London, and the Victoria. When the information collected from these sources is ready, it will be arranged, tabulated, and submitted to the Pharmacopœia Committee, who deal with these suggestions as they do with those coming from the pharmacists, and determine how far they should be adopted. Finally, the work is submitted to every member of the Council in proof, each being free to express his opinion on any part of the work. It is thus very far from being the work of a pharmacist. No book can have more thorough consideration and revision in all its parts; but it is not possible to satisfy everyone."

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As regards another matter before the General Medical Council, to which reference was made in my last issue, viz., the resolution of the Council condemning the certificates given to midwives by the Obstetrical Society, I hear that the Society means to show fight. The report seems to be indirectly confirmed by some remarks made by the President of the Obstetrical Society, Dr. Herman, at a meeting recently held under the auspices of the Midwives' Institute, for the promotion of a Bill for the registration of midwives. He said (I quote from the report in the *British Medical Journal* of January 12th) that the resolution passed by the General Medical Council on the subject might be regarded as a general threat only, *which he did not think they would dare to enforce*. Here is the gauntlet thrown with a defiant clatter that seems to mean business. I confess the situation reminds me rather of David going forth against Goliath with his sling and his stone. Will the Obstetrical David be as fortunate as he that slew the Philistine Giant?

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There is, I think, every sign that the antitoxin treatment of diphtheria has, if I may be allowed to use an expressive

Americanism, "come to stay." However much the details may be modified there can be little doubt that the principle of the method is now firmly established, and that is the root of the matter. The chief question at present is as to the supply of serum. It is satisfactory to be assured on the authority of Dr. Ruffer that the British Institute of Preventive Medicine is now in a position to supply serum sufficient for the treatment of 150 to 200 cases a day at a cost not exceeding one shilling and sixpence per case. The results of the treatment both here and in foreign countries continue to be highly encouraging, and they would no doubt be still more satisfactory if practitioners would in all cases use the remedy precisely as directed. Insufficient doses only lead to disappointment, and may indirectly do much harm by throwing undeserved discredit on the remedy. In several of the unsuccessful cases that have been reported it is too clearly not the serum but the manner, and especially the quantity, in which it has been used that has been at fault. Dr. Klein has had occasion to call attention to the additional source of fallacy imported into statistics of the treatment by such futile modes of administration, and Behring himself has complained with excusable bitterness of the same thing. I see a collective investigation of the results of the treatment has been set on foot in Germany. Collective investigation has not proved particularly successful in this country, but perhaps the Germans, with that "infinite capacity for taking trouble" which constitutes Teutonic genius, may do better.

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I have been dipping into Dr. Poore's most interesting "Essays on Rural Hygiene," a second edition of which has just appeared, and I would advise everyone to read the book, not only for its matter, which is excellent, but for its style which seems to bring something of the breezy freshness of the country into our dingy London rooms. It is so refreshing to meet with a writer who thinks for himself, and utters what is in him without fear of the sanitary *doctrinaire*, the political economist, or any of the scientific "bogeys" which overawe men of less independent mind. Dr. Poore's book is a lay

sermon on the text, "God made the country and man made the town," and his hatred of the speculative builder and all other defacers of rural beauty is as hearty as Mr. Ruskin's. "The big towns," he says, "are daily becoming more and more a menace to the country." Overcrowding is ruining the bodies and souls of our town populations, and London, in particular, in spite of all its "betterments," is getting steadily less habitable year by year. To Dr. Poore the whole system of "flats," "mansions," and monster hotels, "where each floor ventilates into the floor above and the floor below, while the 'lifts' effectually drive the air from one floor to another without renewing it," is the very abomination of desolation. "Overcrowding" is the Carthage of this sanitary Cato; he foresees national ruin unless it can be got rid of. But how is this to be done? "No regulation other than the insistence upon a proportion being observed between cubic contents and curtilage would serve to check overcrowding. An arbitrary rule to limit the height of buildings is not sufficient, because if the builder is not allowed to soar he will commence to burrow as he is doing in Chicago, and as he has done for many years past in London." Further, "houses should be rated in proportion to the cubic contents; and open spaces round houses should be very leniently dealt with when valuing for rating purposes." This is the keynote of Dr. Poore's teaching: more air, more light, and more elbow room for each of us. Live in the country if you can; if compelled to live in town, strive to make your dwelling and your surroundings as good an imitation of the country as circumstances will allow. *Rus in urbe* is the secret of sanitary salvation for those who are condemned to live "in populous city pent." The doctrine is sound; the difficulty is, How is it to be carried into practice in parts where ground is valued at £5 a square foot? Dr. Poore's suggestion that "the whole of the sanitary rates should be levied *en bloc* from the ground landlord" I commend to the earnest attention of the County Council. "It is the ground landlord who makes the chief profit out of overcrowding, and it is overcrowding, more than any other condition, that sends up the sanitary rates."

Public Health.

THE PREVENTION OF INFECTIOUS DISEASES IN ELEMENTARY SCHOOLS.

THE Legislature has made many strenuous attempts to protect the public against the ever-recurring danger of infection, and little by little the more obvious *lacunæ* in this respect are being made good. Although the practical results leave much to be desired, there can be no question but that the condition of matters would be infinitely worse than it is were it not for the partial security which the present order of things affords.

Let us consider what the law does, or tries to do, in the direction of keeping infected persons and things away from schools. The sanitary Magna Charta, the Public Health Act of 1875, ordains that no person suffering from any dangerous infectious disorder shall be exposed in any public place, and both the school and the street leading to it are doubtless forbidden ground. But what is the exact meaning of the expression "dangerous infectious disorder"? Upon that point the law is silent, as it is apt to be when it has introduced technical terms a little carelessly; but it may safely be taken to mean, at all events, small-pox, scarlet fever and diphtheria, among the maladies which most concern school populations. The discretion, or the reverse, of the Bench is an unknown quantity which has always to be taken into account. It is very doubtful whether the average magistrate would convict in cases of measles, rôtheln, or whooping-cough, although if they happened to be locally scheduled under the Notification Act the chances of conviction would be increased. It is not probable that chicken-pox, mumps, or influenza would be held worthy to rank as "dangerous" under any circumstances. Another element of weakness is the difficulty of proving the "guilty knowledge" or culpable carelessness which practically has to be established if more than a nominal punishment is to follow. It is usual to plead ignorance and difficult to disprove it, especially in slight cases or where no medical advice has been sought. All who are at all familiar with public health administration, or for that matter with

school administration, know that children are frequently sent to school while suffering from scarlet fever in a slight form, and often without any suspicion on the part of the parents of the real nature of the case. Sometimes the explanation offered is the rather Hibernian one that it was thought to be "only measles," but much more commonly the symptoms have been entirely overlooked, or put down in good faith as merely due to simple sore throat or to some other trivial ailment.

Assuming the patient to be kept safely at home during the acute stages of illness and, what is far more difficult to ensure, during the subsequent weary stage of convalescence, when he is no longer ill but only a source of infection, the school is not yet out of reach of danger. He may have brothers or sisters whose absence from class for a term of weeks would be undesirable both from the teachers' and the parents' point of view, except for the one reason that their attendance would involve some risk of conveying infection in their clothes or otherwise. Here the law, as currently interpreted, helps us not at all, except in so far as by compulsory notification it enables the medical officer of health (voluntarily, save in London) to warn the school authorities, and thus gives them the opportunity of declining to receive children from the infected household—or not—as they please. It is unlawful to take into a public place any clothing which has been exposed to infection of the "dangerous" kind, but very few sanitary authorities indeed have ventured to prosecute on the assumption that the clothing of persons coming from an infected house is to be regarded as having necessarily been exposed to infection. For practical purposes there is no law to prevent parents sending healthy children to school from an infected house. Efficient isolation within the house—isolation, that is, of the sick person from the rest of the household for the whole of the period of infectiousness, upon the lines which are considered indispensable where the patient is of a wealthier class—can only very rarely be carried out in the homes of Board School children. This, however, is a point upon which the law has nothing to say. Given a private dwelling, and inside it a case of infectious disease, dangerous or otherwise, it would be quite legal for the patient to hold a *levée* if so inclined.

School authorities are almost equally free from direct legislative interference with their discretion in this matter; but public elementary schools which receive a grant are brought under some measure of control by the regulations of the Education Department, and must close the school or exclude particular scholars if required to do so by the sanitary authority. Sunday-schools and private schools are under no such obligation.

School managers have considerable difficulties to contend with in deciding whom to exclude, and for how long. As regards slight and unrecognised cases of the dangerous class, as well as the less fatal zymotics which are neither notified nor regarded with much apprehension, reliance has to be placed on the watchfulness and intelligence of the teachers, for direct medical supervision is rare, unless the attention of the medical officer of health has been drawn to the school by some epidemic, or by the occurrence of cases which seem to have arisen there. Non-notifiable diseases of the graver sort, such as measles and whooping-cough, will usually make themselves conspicuous enough to secure the absence of the actual sufferer, or his dismissal if he should present himself, even if no medical attendant has been called in and thus enabled to prescribe the necessary isolation; but the exclusion of his brothers and sisters is a different matter, and there can be no doubt that great laxity prevails in this respect. Warning is usually conveyed to the school, directly or indirectly, of notified cases; in London, the medical officer of health is required to communicate with the head of any school attended by an inmate of the household in which the case is notified, and elsewhere a similar practice is often voluntarily adopted. In many towns a second intimation is sent when the danger of infection is over; but there is no regulation to this effect, and school authorities are left very much to their own devices in deciding when to permit, or enforce, the return of the exiles. For obvious reasons reliance cannot be placed upon the verbal assurance of friends as to safety or otherwise. School authorities do not pay fees for medical certificates, and it is doubtful if they have any power to do so; their power lies in summoning the parents for not sending the child to school, a medical certificate of unfitness being the only practicable line of defence. Apart from the fact that it offers a direct inducement to send infected children to school, it must be admitted that this course is a harsh and undesirable one, especially as regards the poorest class, since they must either pay a tax which they can ill afford, or draw on the charity of the certifier. There is something absurd in a system under which a parent may be equally liable to punishment for sending an infected child to school and for not doing so. Since the public safety demands medical evidence of a certain fact, in the shape of a certificate, it is only reasonable that the public purse should bear the cost.

The system of payment by results has, of course, made it the interest of the managers of public elementary schools to maintain as large an attendance as possible, and when

examination time has drawn near they have not always been proof against the temptation to increase the numbers by sending for absentees whose presence involved some risk of spreading infection.

From this review it will be apparent that, as regards schools, the law has not erred in the direction of placing too much arbitrary power in the hands of the sanitary authority, and, indeed, their hands might with advantage be strengthened in some respects. As matters stand, the defence of schools against infectious diseases is dependent very largely upon voluntary action, and the results are certainly more satisfactory on the whole than might have been anticipated. Complete safety is unattainable. It is scarcely possible to devise measures to meet the danger which arises from slight and obscure cases, from oversights made in good faith, and from the delay of a day or two before the nature of an attack can be ascertained and the proper measures of precaution brought fully into play. Some leakage is practically inevitable, and all that can be done is to reduce it to a minimum.

To this end certain desiderata involving no change in the law at once suggest themselves. The first is that school authorities should secure the services of skilled medical advisers, instead of relying so largely upon hearsay and upon the diagnostic acumen of the teachers. More especially when an epidemic of one or other kind is present in the locality is the closest medical supervision needed. A timely inspection of the children mustered in class would often bring to light "sore throats" that were diphtheria or scarlet fever, and so prevent much mischief both inside the school and without. The managers ought also to act under medical guidance in regard to the readmission of children who have been excluded on account of infection. Sanitary authorities should offer free hospital accommodation, for the more dangerous zymotic diseases at all events, and free disinfection. Notification should be enforced, not only as regards medical practitioners, but also upon householders when no medical advice has been sought. This, unfortunately, is rarely done, notwithstanding the express provisions of the Notification Act. It is deserving of consideration, too, whether measles and whooping-cough, and even chicken-pox and röteln, should not be added to the notifiable list, in order that the earliest warning of impending epidemics, and the fullest possible indication of infected localities, should be made available for the guidance of the school officials through the medical officer of health.

It should be a rule, to which enteric fever alone among the ordinary infectious diseases may be admitted as an exception,

that no person from an infected house should attend school; the exclusion to continue until infection is at an end. A safe standard is to require a period of quarantine, after the last exposure to infection, somewhat exceeding the ordinary incubation of the disease. Thus, in case of scarlet fever, thorough disinfection having been carried out as soon as the patient was removed to hospital, or (if kept at home) as soon as he had passed out of the infectious stage, children who had not had the disease should be kept under observation for about a week more.

A Medico-Literary Causerie.

MEDICINE AND MEDICAL PRACTITIONERS IN ANCIENT ROME.

(Concluded.)

As Rome grew, the *Græculus esuriens* naturally found a wider field there for his versatile cleverness. The diseases which advancing civilisation always brings in its train created a demand for more practitioners of the art of healing. The profession became overstocked ; and this, together with the more exacting demands on the practitioner's resources which wealth and luxury inevitably beget, soon led to specialism. Cicero in his *De Oratore* asks, "Do you think that when Hippocrates of Cos was alive there were then some doctors who treated diseases, others who treated wounds, and others again who treated eyes?" This shows that already, in the last days of the Republic, specialisation had begun. The fissiparous process went on till, under Galba, in the latter half of the first century of the Christian era, there were, besides the *medici clinici*, or what we should call general physicians—who did not practise surgery—specialists for every part of the body. There were surgeons who limited themselves to one kind of operation—some for fistula, some for paracentesis, some for hernia, some for the throat (among them some of a still more highly rarefied kind, who cured relaxed uvula without cutting), some for castration, etc. There were at least two varieties of oculists—one for the general treatment of the eye, and the other for operations on that organ. There was even a special operator for the destruction of eyelashes which interfered with vision. (Martial, x. 56.) Then there were the aurists (*auricularii*), the dentists, the bone-setters, etc. The skin as yet *caret rate sacro*, but there were specialists for the removal of the tattoo-marks which were the badge of slavery. There were also lady doctors of various kinds—the *medicæ* and the *clinicæ*, the latter of whom confined themselves to the diseases of women. The law made no distinction between the sexes in the practice of medicine ; in the Digest the practitioner of the healing art is referred to simply as "*medicus—sive masculus, sive femina.*"

In the days of the Republic the medical profession in Rome was a mere fortuitous concourse of atoms, and it was not till the time of Augustus that it began to have anything like a corporate existence. The process of organisation seems to have begun with meetings between the adherents of different medical sects for the discussion of their several doctrines—somewhat on the lines of our societies. These meetings were at first held wherever the disputants could find shelter—in the Temple of Peace, in the Palatine Library, in the gymnasia. In course of time, however, a local habitation and a name were found in the *Schola Medicorum*, on the Esquiline, which constituted what may be termed an Academy of Medicine, with offices, secretaries, archives, and all the rest of it. The ruins of this Academy were still to be seen in the sixteenth century, and from the descriptions of travellers who saw them the *Schola Medicorum* must have been a much handsomer structure than the dingy buildings in Lincoln's Inn Fields and Pall Mall East. Of all the paintings and sculptures which adorned it, the only thing that now remains is, according to M. Maurice Albert, a mosaic, which is preserved in the Villa Albani. This represents a group of seven physicians, one of whom is probably Antonius Musa.

Medical education seems to have consisted almost entirely in a kind of apprenticeship system. The student attached himself to some leading practitioner, and picked up such crumbs of instruction as fell from him in going his rounds. Clinical teaching was carried on at the bedside of private patients. Martial complains of the eagerness for knowledge displayed by the pupils of Symmachus, whose "hundreds of ice-cold hands" palpated him and gave him fever, which he had not before. As to the length of the curriculum, that varied from the six months deemed sufficient by Thessalos to the fourteen years (from 11 to 25) judged necessary by Oribasius. Galen's best title to fame is that he strove to bring about a radical reform in the teaching of medicine. He insisted that the foundation of the art of healing is a knowledge of the structure of the human frame; and this, he insisted, could be acquired only by dissection. This sounds like a truism to us, but in his day it was simply revolutionary. Hippocrates limited his observations to the external signs of disease, and although Erasistratus had dissected the human body at Alexandria, and Herophilus had even vivisected criminals under sentence of death, anatomy was almost unknown, except such rough notions as could be gathered from the battlefield, the slaughter-yard, or the sacrificial altar. Galen himself suffered from the deficiency of anatomical

"material," and he had to dissect monkeys as the best substitutes for the human subject.

Of hospitals in the modern sense there were none. In most of the cities of Greece, indeed, there were, as early as the time of Hippocrates, and possibly before his day, public dispensaries, or *iatreia*, supported by municipal funds, where out-patients received advice and medicine, and had sores and wounds dressed. It is doubtful, however, whether there were beds in these institutions, except as a temporary provision for special cases—as when a patient suffered from shock after a somewhat severe operation, or had a fit, or was otherwise too ill to go home at once. Such an *iatreion*, as has been seen, was established in Rome by the Senate for Archagathos, and gradually numbers of similar establishments were founded, not only in Rome, but throughout Italy, under the name of *Medicinæ* or *Medicatrinx*. It was not till A.D. 380 that a regular hospital was founded in Rome by Fabiola for the reception of poor sick persons without home or shelter.

Both poor and rich, however, often sought relief for their sufferings at the shrine of Æsculapius or other divinity considered appropriate to the case. An essential feature in this miraculous therapeusis was the presentation of offerings, or *donaria*; the deity seems to have been content to take his fee either in kind or in specie. Nothing came amiss—land, cattle, fruit, weapons of war, workmen's tools, jewellery, even old clothes. An interesting paper on this subject, by Dr. Luigi Sambon, was published in the *Journal of the British and American Archaeological Society of Rome* (vol. ii, No. 4, Rome, 1894). He says that "of the votive offerings laid at the shrine of the healing gods, those most common were bronze statuettes, marble or terracotta reproductions of various parts of the human frame, pottery of every description, and coins." Among the pottery found are invalid medicine-cups of various shapes and infants' feeding-bottles, many of them fashioned in the form of the female breast. The greater number of terracottas represent limbs and organs of the human body, many of them showing marks of disease. In some of them the anatomy is very rude, but others are wonderfully true to nature. The heart, kidneys, intestines, and other organs are found singly; and in the National Museum of Rome there is a perfect image of the trachea. In the Vatican Museum there are two fine specimens of marble *donaria*, one representing the lungs and heart, the other a deformed thorax. From the evidence of these curious works of art—which were not executed by persons with a medical training, but by any wayside potter—Dr. Sambon infers that the average Roman

of the "great days of old" was much better acquainted with anatomy than his successor of the present day.

As regards public appointments held by medical practitioners, it is not till the time of the Empire that we find evidence of their being in the direct employment of the State as regular officials, with a definite place in the hierarchy of civil and military administration. Under Augustus there were medical officers to the circus, the amphitheatre, the training school for gladiators, the public libraries, the Imperial Estate, the public gardens, etc. Both the army and the navy had regular medical services; the surgeons had a good position immediately after the senior officers. Their titles were—in the army, *medicus militum*, *medicus cohortis*, *medicus castrensis*; and in the navy, *medicus ex triremi*, etc.

In the provinces each town of any importance had several medical functionaries, who seem to have combined the duties of Poor Law medical officers and medical officers of health. They were paid out of a local rate to look after such of the inhabitants as needed their services, and generally to give advice as to sanitation. This was an old institution borrowed from the Greeks, but, though officially recognised, and even administered under State control, as far as the funds were concerned, in the provinces, it was not introduced into Rome itself till A.D. 368. In that year the Prefect Prætextatus issued a decree (*De Archiatriis popularibus Urbis Romæ*) enacting that each of the fourteen districts of the city should have an *archiater* or chief medical officer. These officers are enjoined "honourably to tend the lesser folk rather than shamefully serve the rich" (*honeste obsequi tenuioribus malint quam turpiter servire divitibus*). They were allowed to accept the offerings of those in good health for services rendered, but not such as were promised for cure by persons in danger of death. On the death or resignation of one of these officers his successor was to be chosen, not by the favour of the great, nor by the legal authority, but by the votes of the other *archiatri populares*. It is hardly necessary to add, however, that the head of a despotic government could not long allow the right of election to any public appointment, with a salary attached to it, to be independent of his control. Accordingly we soon find the Emperor interfering with the appointment of *archiatri*, and we find the refusal of the officers to recognise the appointment of a colleague by Imperial authority described as "a kind of sacrilege." By-and-by we hear of a *Præsul archiattrorum* placed over the others, and charged with the supervision of their official conduct. It may not be rash to conjecture that the creation of this new dignity was what would nowadays be called a piece of jobbery. Readers who

are interested in the subject will find further information in Dr. R. Briau's "Archiatric Romaine" and in Dr. Vercoutre's learned article, "La Médecine Publique dans l'Antiquité Grecque," published in the *Révue Archéologique* (1880).

Under Alexander Severus, and especially under Diocletian, physicians who had the good luck to bask in the sunshine of the Imperial favour could hope for almost any dignity and for any privilege. The Court physicians and their children were exempt from all taxes and public duties; they were placed in the highest ranks of Diocletian's hierarchy—among the *Egregii*, the *Spectabiles*, the *Illustres*, the *Eminentissimi*. The baronetcies and knighthoods half contemptuously flung to one or two members of the profession nowadays show poor indeed beside these titles and dignities. The highest offices in the State were not beyond the reach of a lucky doctor. Vindicianus, a medical practitioner, was Proconsul of Africa; and another member of the profession, Ausonius, father of the poet, was Prefect of Illyria. Nor were these isolated instances of the height to which medical men in those days might climb by Imperial favour.

To come back, however, to the more strictly professional aspect of the matter, what manner of men were these old Roman practitioners? They knew little anatomy or physiology, and nothing of microbes; yet, no doubt, they were useful members of society. The superior scientific person of to-day looks on the past with a feeling of Pharisaic self-glorification, and the jibes of the Roman satirists might be taken to show that the medical practitioners of ancient Rome were not only impostors and quacks, but villains and profligates of the worst kind. It is impossible to receive this as a true picture of the whole profession. The evidence of witnesses like Cicero, Horace, and others—men of the world not likely to be imposed upon by ignorance or pretension—has already been cited. Another illustrious witness in favour of the doctors is Seneca, who, after a glowing description of the devoted care which a good physician gives to his patient, says, "Such an one is not merely a doctor, but a friend. Although I may pay his fees, I shall always remain his debtor; the debt of the heart remains undischarged" (*pretium operæ solvitur, animi debetur*). Evidently there were physicians worthy of the name, as well as grateful patients, in those days.

Reviews of Books.

A Treatise on Hygiene and Public Health.—Edited by THOMAS STEVENSON, M.D., F.R.C.P., Lecturer on Chemistry and on Medical Jurisprudence at Guy's Hospital, and Official Analyst to the Home Office; and SHIRLEY F. MURPHY, Medical Officer of Health of the Administrative County of London, President of the Epidemiological Society, late President of the Incorporated Society of Medical Officers of Health. Volume III.—Sanitary Law. London: J. and A. Churchill. 1894. Price 20s.

WE are told in the preface that the authors of the articles in this volume are "gentlemen of recognised legal ability, each of whom is officially engaged in the administration of the law in that part of the United Kingdom with which his article relates." Hence, it is added, their names cannot be given, but it is thought that this is of less importance than the certainty that the reader will have for his use a work based on actual experience of an exceptional character. To this proposition we cordially agree, and, even apart from the confidence inspired by the names of the editors, the thoroughness of the workmanship is in itself sufficient to establish the reputation of this digest of sanitary law upon a firm basis. It is intended for the use of non-legal readers, and includes everything that the medical officer of health needs to know of law beyond the local Acts and bye-laws which are in force in his district. Whatever may be the identity of the writers, they show an intimate acquaintance with the standpoints of both local and central authorities, and with the history and development of sanitary legislation. The volume appears most opportunely, at a time when much of the old order is changing and giving place to new. What with the creation of county councils, district councils, and parish councils, and the passing of the Isolation Hospitals Act, not to mention the London Public Health Act and Building Act, and the three great Adoptive Sanitary Acts of 1889-90, recent sanitary legislation has gone fast and far, and had the work been written and published only a year earlier it would already have become out of date in many essential points. No doubt further advances will

be made in the next few years, and among those which are most needed are amendments of the Rivers Pollution Prevention Acts and the Sale of Food and Drugs Acts, and a codified Public Health Act for the provinces; but none of these is likely to equal in importance the legislation of 1894, and we may safely count upon justice being done to them, when the time comes, in second and third editions. One of the many valuable features of the work is the light which is thrown upon the practice of the Local Government Board, as, for example, in case of default under Part II. of the Rivers Pollution Prevention Act of 1876, where they can either appoint some person to carry out the work at the cost of the local authority, or proceed by *mandamus*. The latter course is now adopted. The frequent references to the circulars and memoranda of the Board are convenient and helpful. Further extension in this direction would be welcome, such as an indication of the present requirements of the central authority with regard to land for sewage schemes, air space in cowsheds, free area around small-pox wards, and the minimum population which may be regarded as entitling a district to ask for promotion to urban rank. These points, and others of like kind, are tolerably well known in an informal way, but it would be a great advantage to medical officers of health to have them recorded in quotable form in the standard work on the subject. The authors incline to the view that medical officers of health should not be engaged in private practice, mainly on the usual grounds that under such conditions the salaries assigned are often inadequate, and that official duties are liable to clash with private interests. Unfortunately, the inadequacy of salary is by no means limited to part-time appointments, and both in this respect and also as regards the tenure of office the Local Government Board are not free from reproach on the score of inertia. Indeed, this is admitted, for it is stated that the Board have made little use of their power to combine sanitary districts under section 286 of the 1875 Act, and their "practice" of withholding their consent when local authorities propose a salary unreasonably small has been more honoured in the breach than in the observance. Perhaps it would be unfair to credit the Board with more than tolerance of the preposterous system of annual reappointments which obtains in so many of the smaller districts, but for some inscrutable reason they have, in more than one instance, refused to sanction the only proper arrangement, namely, appointment without any time-limit. Another burning question is that of charging poor patients with the cost of maintenance in hospitals for infectious diseases. The

exceeding unwisdom of this practice is clearly explained, and a useful reference is given to a County Court decision, in which advantage was taken of an apparent flaw in the 132nd section of the 1875 Act. It was held that although the local authority can recover from the patient or his estate, his parents are not responsible, even if he be under age. Purely local legislation is, of necessity, passed over, but due consideration is given to the special statutes in force in London, Scotland and Ireland. The authors' opinion of the Metropolitan Vestries and District Boards may be inferred from the following passage :—"The constitution of the London County Council marked, however, the commencement of a new era in the sanitary history of the Metropolis; and it may not unreasonably be hoped that before many years have passed, the law relating to the public health in London, and its administration, may rise to the level which has been attained in the leading provincial boroughs." They prophesy also a larger share for provincial county councils in sanitary government, now that the constitution of district and parish councils has been finally settled. The third and concluding volume of this great work is worthy of its predecessors. It is well written, well arranged, and well indexed, and has abundant cross references and side-lights. The marginal headings are very convenient.

The Treatment of Wounds, Ulcers, and Abscesses.—By W. WATSON CHEYNE, M.B. Ed., F.R.S., F.R.C.S., Professor of Surgery in King's College, and Surgeon to King's College Hospital, London.—Edinburgh and London: Young J. Pentland. 1894. Price 3s. 6d.

The Aseptic Treatment of Wounds.—By DR. C. SCHIMMELBUSCH, Privat-Docent and Assistant-Surgeon in Professor von Bergmann's University Clinic at Berlin. Translated from the second German edition by ALFRED THEODORE RAKE, M.B., B.S. (Lond.), F.R.C.S. (Eng.), Registrar and Pathologist to the East London Hospital for Children.—London: H. K. Lewis. 1894. Price 5s.

THESE two works deal with the widely important question of the best method of treating surgical wounds, and their simultaneous publication affords a good opportunity of comparing and contrasting the principles and application of the two systems chiefly in vogue at the present day. Dr. Schimmelbusch's description illustrates the technique followed at von Bergmann's Clinic, and may be looked upon as an authoritative exposition of the aseptic system, the one most usually employed on the Continent and to a large extent in America.

It is based in principle on the results of laboratory experiments and attempts to make surgical practice conform entirely to the teaching of bacteriological results. It appeals strongly to our foreign *confrères*, who are apt to become enamoured of a system, and who are so readily disposed to make practice fall in with theory. The practical common-sense, which our severest critics allow that we possess, has so far prevented the aseptic method from obtaining any appreciable foothold in these islands. It is from this point of view that Mr. Watson Cheyne believes that the simplest plans of wound-dressing, consistent with safety, are those which are based on Listerian principles; and while he admits the theoretical correctness of the aseptic method, he considers the risks of error too great to allow of its ever being generally adopted. We cannot, at the same time, disregard the value of the scientific grounds upon which the Continental procedure is built up, and a study of the aseptic system is interesting, and may at least tend to modify excessive antiseptic zeal on the part of those who have never had the opportunity of seeing the brilliant results obtained by the leaders of strictly aseptic surgery. Both authors regard the skin as the principal habitat of organisms likely at a later period to give trouble. Mr. Cheyne, trusting in carbolic acid—as being certainly more potent than sublimate solution, on account of its affinity for fats and power of deeper penetration—recommends that the skin be scrubbed with soap and a mixture of 1 in 20 carbolic lotion with a 500th-part of corrosive sublimate, thrice before operation. The aseptic surgeon, on the other hand, satisfied with removing the epithelium, etc., regards scrubbing as the all-important element in his adversary's method, and here as elsewhere considers antiseptics to have little or no germicidal action on organisms embedded in dirt, epithelium, blood, or pus. The brushes used for the skin, he thinks, are insufficiently cared for; they should be sterilised in boiling water and always kept in a 1 to 2,000 sublimate solution. Mr. Cheyne does not as a rule boil his instruments; immersion in carbolic acid can, he thinks, be depended on. But here, again, the aseptic advocate considers that the good repute enjoyed by the antiseptic agent is in reality due to the previous washing and rubbing, which has rid the instruments of their albuminous covering with the organisms contained therein. His instruments are boiled for five minutes in soda solution at a temperature of 104° C. and then placed in a cold sterilised solution of the same. The instruments must be made of steel throughout; nickel, aluminium, wood, and horn will not withstand the ordeal. During operation Dr. Schimmelbusch teaches that the wound must be kept absolutely dry, that no antiseptic

should be poured into it, and that the smallest bleeding points should be isolated and ligatured ; while the follower of Lister only ligatures the largest vessels, torsion and pressure being sufficient for the rest, and thus much valuable time is saved. He frequently fills the wound with perchloride solution, which he finds to be less irritating than carbolic. Catgut is prepared by soaking it in 1 to 20 carbolic acid for a week : at the Berlin Clinic it is immersed in a 1 per cent. solution of perchloride with 80 per cent. alcohol for forty-eight hours, and afterwards kept in alcohol. For drying the wound, Mr. Cheyne prefers sponges to pads of wool, which might be improperly prepared by a nurse. The sponges are subjected to repeated washings, and then placed in 1 to 20 carbolic acid for a week before being used a second time. Dr. Schimmelbusch considers even this treatment not absolutely reliable, and, since sponges do not lend themselves to sterilisation by heat, prefers balls of gauze that have been steamed for half an hour. As to dressings, Mr. Cheyne employs the double cyanide of mercury and zinc gauze kept in 1 to 4,000 perchloride solution and only wrung out at the time of operation. He thinks that a very wide area of skin around the wound should be protected, to avoid the risk of infection from the edges of the dressings incurred by many surgeons with too economical tendencies. Between the layers of gauze large sponges are arranged to absorb serum and blood and for the purpose of applying pressure. The dressing remains unchanged, if all goes well, for ten days. Dr. Schimmelbusch approves of an antiseptic dressing prepared on these lines under the eye of the surgeon, but points out the errors possible during manufacture and subsequent manipulation by many hands in hospital practice, and once more impresses the fact that even after days of soaking, the antiseptic may fail to kill resistant spores encased in grease and albumen. In Germany dressings of gauze—book-muslin—and moss are in favour. They are cut to size, placed in a metal dressing-box, and then exposed for three-quarters of an hour to hot steam ; the lid of the box is then shut down and not reopened until the surgeon is ready to cover the wound. Mr. Cheyne deals at length with the pathology and suitable treatment of the various lesions the result of ulceration, and includes an excellent account of skin-grafting by Thiersch's method. No ulcer should be so treated until it is "healing" and "aseptic." The patient being anaesthetised, the superficial granulations and the growing epithelium at the edges of the ulcer should be scraped away and the grafts applied so as to cover the whole surface of the wound, overlapping one another and also the freshened edges. Both books are the best expositions we know of these rival

methods, and as such should be carefully studied by every practising surgeon. Mr. Rake is to be congratulated on his admirable translation.

Heart Studies Chiefly Clinical : I. The Pulse Sensations ; A Study in Tactile Sphygmology. By WILLIAM EWART, M.D. (Cantab.), F.R.C.P. Lond., Physician to St. George's Hospital, &c. London: Baillière, Tindall and Cox. Price 15s.

FOR a right appreciation of this work it is essential to bear in mind the author's statement in the opening remarks, to the effect that the results submitted "comprise only those which may be claimed as part of the sphere of physiology," while at the same time it is made clear that his observations are put forward as containing "the germ of a practical method, which by reason of its simplicity should develop into one of general clinical utility." Hence one is not surprised to find that physiological considerations as to the pulse and methods of investigation, experiments, and observations relating thereto occupy the chief place in this volume, and that modifications of the pulse as met with in disease, and their clinical significance, receive little more than incidental reference. In the introduction, the need for a "special education" of the sense of touch, if it is to be employed in scientific investigation, is rightly insisted upon; and we may add that the work before us bears emphatic testimony to its value in such investigation. In the comparison between the sphygmograph and the finger we are reminded that "the sphygmograph cannot trace the feeling of the pulse; neither can the finger feel the pulse-wave such as the sphygmograph describes it"; and there can be little doubt that most clinicians will entirely agree with the author's opinion that "the touch presents us with a much more substantial and 'solid' idea of the pulse-wave than does the sphygmograph." In connection with the "unreal features" of the sphygmogram emphasis is laid upon the necessity for not overlooking the fact that it is an "artificial product," and therefore is not to be implicitly relied on in our mental ideation in connection with the pulse-wave.

Part I. is devoted to "General Notions on Pulse Artery and Arterial Tension." In Part II., "The Tactile Methods of Exploration of the Pulse" are dealt with. As to the various methods of "feeling the pulse" we are told that, if the arterial walls are the object of palpation, we cannot use too many fingers at a time, but it is otherwise in studying the pulse-wave. "The flat of one finger" is advocated, instead

of "the tips of several," and for the purpose of fine analysis of sensation a "single finger tip." The importance which the author attaches to this point is fully demonstrated throughout the book. The chapter on "Elementary Tactile Observations" introduces an all-important, if not the central, feature of the work before us. After referring to "the rise" or "upstroke," the "beat" or "ictus" is described, and spoken of as "the central tactile event in the pulse" which, "although a product of the pulse-wave, and coinciding with part of the wave, is essentially distinct from it." Part III., "The Rudiments of Tactile Analysis of the Pulse," deals exhaustively with tactile exploration in general and in particular with the "ictus," its varieties and modifications. "The Graduated Application of Pressure" is described, the author recognising five degrees of pressure ("Pressure I.," "Pressure II.," &c.), determined by the extent to which the subjacent artery is compressed. According to the degree of pressure exercised, the "ictus" will be "proximal," "distal," or "intermediate." We must refer the reader to the author's description of the numerous clinical observations and experiments concerning the "ictus," upon which he bases his conclusions as to its characters and modifications, its direction and time. The experiments and observations which he adduces in support of the "retrograde march" of the "ictus" are especially important, but cannot be discussed here. Part IV. is entitled "The Wave Theory, and the Instrumental Study of the Pulse Wave." Reference is made to the work of Von Frey, Von Kries, and Roy and Adami. The utmost importance is attached by the author to the subject of "The Rebound of Arterial Waves of Blood-Pressure," whose chief site of origin is the periphery of the vascular system. Dirotism and the various theories as to its causation are discussed at length. Part V., "Further Tactile Studies," comprises reference to "Distal," "Intermediate," "Proximal," and "Anastomotic" ictus. In reply to the question, "What is the Ictus?" various experiments are cited which lead to the remark, "It was thus proved by the concurrent testimony of sight and of touch that the ictus follows in the arm an ascending or centripetal course"; and as to its mechanism, "we may regard it as a sharp and fugitive pressure, raised by two positive waves meeting from opposite quarters in the body of the long systolic wave." The concluding chapters of this part, on "The Anastomotic Pulse," "Dirotism, and Its Factors," and "Changes in the Pulse due to raising the Arm," cannot fail to elicit interest. Part VI. is devoted to "The Observations and Theories of Henri Fouquet," of whose work, despite his mistakes, Dr. Ewart forms a generous estimate.

The work concludes with Part VII., "Epitome of Results and Final Conclusions." In dealing with the tactile method as "An Analyser of the Pulse-Wave," the postulate that "The ictus felt by the finger is identical with the summit of the pulse-wave as displayed in the sphygmogram" is insisted upon as a necessary preliminary.

As a result of his observations, the author is led to formulate numerous conclusions bearing upon the theory of the pulse-wave and allied matters, some of the most important of which may be mentioned.

(a) "Although the progress of the pulse-wave is centrifugal, the progress of the pulse-beat or ictus is centripetal: the beat is felt earliest at the peripheral than at the central end of the arteries."

(b) "The pulse-wave and the pulse-beat are capable of being felt as distinct from each other, and"

(c) "Their opposite directions can be identified."

(d) "Although the pulse-wave reaches the periphery latest, the pulse-beat occurs earliest at the periphery; and, within the same arterial conduction, earlier at any more distal than at any more proximal spot."

(e) "The configuration of the pulse tracing arises from the conjunction with the systolic wave of a series of rebound waves, the first of which is reflected from the periphery."

(f) "Some part of the intra-arterial pressure is due to the summation of the peripheral rebounds."

(g) "The duration of the pressure, and therefore of the arterial tension, also partly depends on rebounds."

We might quote other of the conclusions at which the author arrives, but the above will sufficiently indicate their importance. It is hardly necessary to add that some of them involve points which are at variance with the opinions of many physiologists and of some recent observers in the same field of research. The chapter on "The Practical Methods" will especially appeal to the clinician. We are told: (1) "Never use more than one finger to the pulse except for special objects"; and again: (2) "Apply the index finger lightly. Having found the distal ictus, gradually increase the pressure until the distal ictus vanishes, and at that moment watch for the ictus at the proximal side of the finger; the amount of pressure used will be a measure of the tension of the pulse." (3) "Whenever during gradual application of pressure a marked intermediate ictus is obtained, we have further evidence of sustained pulse-pressure. The full extent of the latter is to be measured by the disappearance of the intermediate ictus, which coincides with the moment of complete evolution of the proximal ictus."

That Dr. Ewart's work will, as he desires, secure additional attention to tactile methods in clinical sphygmology we cannot doubt, but we share in his regret that he has been unable to incorporate in the present volume some of the results which he has obtained in the course of his investigation of the pulse in disease ; for only thus can it be possible accurately to compare from the clinical standpoint the relative merits of this and other methods of tactile investigation, which in the hands of skilled observers have yielded, and are yielding, results of the greatest value.

We have also to remark that the volume before us is lucid in style, profusely illustrated, and in all respects admirably executed.

Dr. William Smellie and His Contemporaries.—JOHN GLAISTER, M.D. London: Macmillan and Co.; Glasgow: James Maclehose and Sons. Price 10s. 6d. net.

THIS work, which is the result of much laborious research, is a valuable contribution to the history of midwifery. It is, as the author states in the preface, to some extent a blend of biography and history, as around the life of Smellie he has woven with much dexterity a history of midwifery in the eighteenth century, and a history also of the men who practised it. William Smellie was born in Lanark in 1697. He obtained his medical education by apprenticeship to some neighbouring practitioner, and there is reason to believe that he was a pupil of John Gordon of Glasgow. He began general practice in his native town in 1720, and there he remained for a period of nineteen years. There is no doubt that at the time he commenced practice he possessed no legal qualification, and it was not until 1733 that he was admitted a member of the Faculty of Physicians and Surgeons of Glasgow. Smellie's practice in Lanark appears to have been a large one, and was not limited to the town in which he lived. Even in these early days he showed a bias for obstetrics, although there was some difficulty in gaining experience in this department, as nearly the whole of the practice was in the hands of midwives. In his work on midwifery, however, seventy-three cases are alluded to which occurred during his practice in Lanark. It was the result of an ever-increasing conviction that the methods of practice then in vogue were unnecessarily severe, and dangerous alike to mother and child, that led Smellie to take up the study of midwifery. In 1734 his attention was drawn to a description of Duse's forceps published by Butler in the "Edinburgh Medical Essays," and he obtained a pair, but found that they by no means answered

the purpose for which they were intended. It was with the object of obtaining further information on this subject that he finally left Lanark in 1739 and went to London. Here, however, he met with nothing but disappointment, and therefore he went on to Paris, where he attended the lectures of the younger Grégoire. He does not appear to have appreciated either the method or the matter of Grégoire's teaching, and so, after a few months, he went back to London, and set up as an accoucheur and apothecary in Pall Mall, convinced that he could introduce better and more effective methods of teaching midwifery than any that were then known. In 1741, after maturing his plans, he commenced as a teacher. His scheme of teaching consisted of a combination of theoretical and clinical work, and in order to teach practical midwifery he devised a very ingenious phantom and doll, which were far ahead of anything used at that time. As there was no lying-in institution to which he had access, he started a plan of attending poor women gratuitously in their own homes. By this means he was able to demonstrate at the bedside the principles which he had taught in his lectures. His method of teaching was highly successful, and he soon attracted a large number of students around him. As the result of the researches of Dr. Glaister, we find that Smellie obtained the degree of M.D. from the University of Glasgow in the year 1745. In 1751, after thirty years of practice and ten years' experience as a teacher, Smellie published his treatise on midwifery. This was followed three years later by a second volume, consisting of illustrative cases; but the third volume, which completed the work, did not appear until 1764, a year after Smellie's death. One of the chief characteristics of this treatise is the entire absence of book tradition. The principles laid down by Smellie were the result of careful and close observation, and he illustrates them by an extensive and well-described series of cases. He threw aside the fetters that had bound all former authors, and described what he saw, and so produced a book of great and permanent value. As a teacher he insisted on the importance of a knowledge of the mechanism of normal labour, and his views on this subject were far in advance of his time, and in the main were true to nature. The name of Smellie is closely associated with the development and improvement of the forceps. He not only did much to popularise their use in suitable cases, but also he did much to render them more perfect and more fitted to do the work required of them. The modern English lock is undoubtedly the invention of Smellie, and so also are the handles as we at present know them. There can be little doubt that Smellie invented the pelvic curve quite independently of either

Levet or Pugh. It must have been observed by all obstetricians that when the head was delayed at the brim, the curve of the sacrum rendered it difficult to obtain a firm hold with a straight instrument. It is not surprising therefore that the idea of curving the forceps so as to correspond to the curve of the sacrum was developed independently by more than one man. Smellie himself nearly always used the short forceps, as he seldom employed instruments except when the head was advanced in the pelvis. He points out, however, that in cases where the after-coming head is delayed, forceps with a pelvic curve are much more easily applied and more effective than straight ones. In 1759 Smellie, after having practised his profession for nearly forty years, was led, by failing health, to retire to Lanark, where he died in 1763. From a note made on the fly-leaf of William Hunter's copy of Smellie's *Treatise on Midwifery*, the cause of death appears to have been asthma. Dr. Glaister's book is one which all those engaged in the practice of midwifery will read with the keenest interest.

Abstracts from Foreign Journals.

MEDICINE.

On enteralgia (De l'entéralgie).—Clinical Lecture delivered by Prof. Potain at the Hôpital de la Charité (*La Semaine Médicale*, Nov. 28, 1894).—Enteralgia is a disease fairly common in Russia and England; in the latter country it is frequent, because it is a neurosis of arthritic origin, especially as there is frequently a gouty hereditary taint laying the foundation for the disease. The characteristics of a pure enteralgia are the paroxysms of pain appearing at varying intervals, and the suddenness of the onset without any dietetic error; the pain is situated either in the epigastrium or around the umbilicus, where it has its point of maximum intensity; it radiates to the right hypochondrium, to the loins, along the ureters, and down the lower limbs. These symptoms require special attention, lest an error of diagnosis be made. The pain is exceedingly acute and overpowering, to such an extent indeed that the patient may faint: usually, however, it is less than in hepatic or renal colic; there is abdominal distension varying in amount, but it is always soft. In prolonged crises nausea followed by vomiting of food occurs: this is always painful, and it may even be faecal in character; there may also be frequent calls to stool. Ordinarily the evacuations are difficult, and the faeces present a series of progressive modifications. A few days before an attack they are hard, and become more so as the attack progresses, and finally ribbon-like; they may be reduced to the thickness of a lead pencil, but always preserve their consistence. When an attack is over, the faeces return gradually, sometimes suddenly, to their normal size, often with a copious evacuation. There is no pyrexia nor loss of appetite; to abstain voluntarily from food on account of pain sets up a neuropathic condition which leads to loss of power with general mental and physical impairment. Enteralgia may be directly inherited, or may be the representative of grave intestinal disease; the heredity of localisation becomes as important as a transmitted diathesis. Instead, however, there may be transmitted only a tendency to neurasthenia, especially in gouty subjects; hence it is chiefly met with among men of high mental capacity. Early and excessive mental exertion is liable to give rise to an outbreak, but

more usually it arises from some depressing cause. Essentially the disease is a purely nervous malady, and is marked by three orders of symptoms—pain, functional intestinal troubles, and the neuropathic condition. Probably there is first of all a change in the intestinal functions which precedes the pain; but, as Cherchevsky has pointed out, the pain is increased out of all proportion to the smallness of the demonstrated intestinal troubles, and as soon as it ceases the evacuations become normal. Occasionally the change in function is due to a catarrh, for which the patient is sent to a warm climate; in others there may be an increase of the intestinal secretions due to a muco-membranous colitis, which may be a gouty manifestation, especially in neurotic subjects. Again, the constant irritation of the intestine may set up a neurotic condition due to changes in the reflexes from the large intestine; similar changes are often set up by mental fatigue. In enteralgia two symptoms are remarkable—the intestinal distension and the changes in the stools; doubtless, the hardened cord felt in the left iliac fossa represents a spasmodically contracted condition of the sigmoid flexure, which leads to imprisonment of intestinal gas, and is due to a true mucous secretion. As in hysteria, the abdominal distension appears suddenly, and disappears without any evacuation; unlike hysteria, there is no swallowing of air, and the disappearance of the distension without any evacuation probably is due to a reabsorption. How far this spasmodic contraction extends can only be surmised; percussion only demonstrates the presence of distension. Enteralgia may, then, be regarded as a painful spasm the pathology of which is closely akin to the colics; this spasm is favoured by a neuropathic condition either acquired or inherited by the patient, and the frequent repetition of the attacks reacts on the nervous system. If the functional trouble of the intestines is the chief factor, laxatives are indicated; if the spasmodic condition is more marked, belladonna and sometimes opium, in minute doses, are very useful; to prevent this condition, ether and valerian, preferably the ammoniated tincture, act very well; in the intervals between the crises, castor oil, sulphur, and rhubarb are most useful; drastic purgatives, especially aloes and senna, and even the salines, are contra-indicated owing to their stimulant action on the intestines. During the seizure hot baths should be employed. Hot bathing, in the intervals, acts beneficially on the gouty tendency, but all exposure, especially to chills, should be avoided. The mineral-water (preferably dilute) cures all well rather from the manner in which the bathing is conducted. Well-directed hydrotherapy is beneficial. Faradisation

during an attack ought to be with the brush—it should be superficial, and ought not to provoke muscular contractions: to effect this the skin should be dried with an inert powder. In the intervals it should be pushed to affect the muscles, especially when the abdominal walls have lost their elasticity. Continuous currents are useful in paralytic forms. Attention to physical and moral hygiene is of the first importance, a variety of therapeutics almost impossible in hospital and practicable only in private life.

Observations on general peritonitis, treated medically.

(*Observations de péritonites généralisées guéries par le traitement médical.*) PROF. REVILLIOD (Geneva), *Revue Médicale de la Suisse Romande*. Oct. 20, 1894.—The object of this paper is to draw attention to the curability of even the severest cases of peritonitis by medical means. It is especially useful to consider the subject from the medical standpoint, considering the great advances of modern abdominal surgery, which is ready to open the abdomen, whatever may be the cause of the peritonitis: the modern surgeon simply cures without having realised any of the indications on which his cure depends. Whenever a discussion on the subject takes place, it is shown that spontaneous cure often occurs. A short examination at once shows whether the condition is local or general, acute or chronic, and affects the peritoneum, covering either one of the abdominal viscera or uro-genital organs, in connection with the gonococcus or streptococcus, or the intestines, which latter is most frequently the case. The bacillus coli is, in a state of health, perfectly innocent and even useful; on becoming pathogenic it gives rise to fever, rigors, inflammation, and suppuration, septicity, putridity, or perforation. It penetrates the walls of the distended, thinned, and paralysed intestines, and invades their peritoneal surface. It readily attacks the debilitated organism if the liver is not able to resume its depurative, and the kidney its eliminative, function, and the phagocytes are not present in number and power. Lastly, by intestinal fermentation, ptomaines are produced. A mere trifling accident, such as a shock or exposure to cold, will set up peritonitis. A stomach engaged in digesting an irreproachable meal is exposed to a chill, indigestion and colic are at once set up, followed by meteorism, etc.; the next stage is enteritis, and then peritonitis, unless a complete evacuation is obtained and warmth applied. Each variety of peritonitis must be treated directly according to its origin, in which the surgeon or physician will play his respective part. The author successfully treated a series of six cases, which may be briefly described as simple local peritonitis, afterwards becoming general; general

peritonitis ; a general suppurative peritonitis, involving the diaphragm, right pleural cavity, and the base of the right lung, in which a cavity formed and large quantities of pus were expectorated ; a local suppurating peritonitis, due to intestinal perforation, which was first evacuated with an aspirator, and then, later on, ruptured into the intestine ; a case of chronic, subsequently becoming acute, tubercular peritonitis, which was aspirated ; and, lastly, a case of chronic peritonitis two years after an attack of scarlet fever. In the third case he especially draws attention to the danger to the patient arising from surgical interference, which would have destroyed adhesions, the only chance of recovery the patient had. Case I.:—Peritonitis by extension from an enteritis, affecting at first the hypogastrium and then becoming general, in a lad aged 15. Case II.:—General peritonitis, recovery. Patient was *æt.* 14. Swelling appeared in the left iliac fossa, and appeared to extend to the right hypochondrium, and to be almost fluctuating, and in a few days the stools were creamy and stinking : three weeks later the patient had an intense pain under the right false ribs ; in two days it ended with a natural action of the bowels, copious liquid with white, yellow, and green masses. Three months later he was brought back with yellow vomiting and diarrhoea with enteritis. Treatment as before saved its extension into a peritonitis, and the patient was discharged well. Case III.:—General suppurating peritonitis extending to the diaphragm, pleura, and right lung ; a cavity : recovery. Patient a boy of 9 years. A collection, probably purulent, formed in the right hypochondrium ; next signs of broncho-pleurisy were noted at the base of the right lung. Exploration through the eighth intercostal space yielded a purulent fecal-smelling liquid ; next a cavity formed in the right lung, and pus was expectorated. Finally he left the hospital cured. Surgical interference here would have broken down adhesions, the natural process of cure. Case IV.:—General peritonitis with suppuration, fecal, due to perforation, puncture, cure. There was general swelling of the abdomen, with pain and tenderness on palpation, especially below and to the right of the umbilicus. Exploration with Potain's aspirator in the right iliac fossa withdrew 700 grammes of pus with a fecal smell. Immediate relief was afforded ; four days later pus appeared in the stools, and the patient then rapidly progressed to recovery. In this case surgery and medicine aided each other. Case V.:—Case of tubercular peritonitis, at first subacute, then acute. Masses in the omentum, ascites ; cure in three months. Patient, girl *æt.* 15. The abdomen was distended and fluctuating ; an exploratory puncture yielded a greenish limpid fluid. She

had some cough but no expectoration, no *râles*; bronchophony at the right apex. Treatment was directed to a general tubercular condition, to febrile disturbance, and lastly to constipation. Case VI.:—Peritonitis, two years after a severe attack of scarlet fever complicated with suppurating glands. Acute onset, passing into a chronic condition; infiltration of the omentum; adhesions between coils of intestine. Cure in six months. Patient, a child of 11; mother suspected to be phthisical. During these cases an estimation of urea was made, and was always found highest in quantity when the condition was most critical and all food forbidden, showing the intestinal origin of the peritonitis. The liver retains it in its passage and destroys septic inflammatory matter. Treatment generally should be to forbid food, with only iced water to sip; leeches should be applied to painful spots; belladonna ointment and hot fomentations; repeated small doses of tincture of opium, and calomel suspended by mucilage; small blisters; ichthyol is useful in promoting absorption in the peritoneum and omentum.

The diagnosis of the functional disturbances of the circulation (*Zur Diagnostik des funktionellen Kreislaufstörungen.*)—A. JAQUET (*Korrespondenz-Blatt für Schweizer Aerzte*, 1894, Bd. xxiv. No. 8).—By the term “functional disturbances”—which is certainly not very appropriate—Jaquet denotes disturbances of the circulation in imperfect action of the valvular apparatus, and, therefore, in the first place, idiopathic hypertrophy and simple dilatation. In the etiology of both diseases, severe bodily exertion and the abuse of alcohol play an important part. Yet it is remarkable that among many thousands who are attacked by the same disease, only a relatively small number exhibit the alterations in the cardiac muscle described. It may, therefore, well be accepted that in these cases a predisposition, a feeble resisting power of the heart-muscle, exists—which in some cases may be hereditary, in others acquired—in which, probably past infectious diseases play a rôle. For the early diagnosis of conditions of this kind, Jaquet employs a method which he calls the dynamic, and which consists in this, that the patients are obliged to work from ten to twenty minutes on a treading apparatus (*Tretapparate*), which allows a measurement of the work done. Both before and after, the frequency and tension of the pulse are observed, and a pulse-tracing is taken. Now, whilst in healthy persons marked tachycardia, amounting to 160 beats per minute, supervened only on very severe exertion (7,000 to 14,000 kg.), a very important increase in the pulse-frequency was obtained in convalescents from typhus, as well

as in some patients with heart affections, with a register of only 1,200 to 6,500 kg. of work done. In three typhus convalescents there could be detected, in addition, a dilatation of the heart after the work done at the "Ergostat." By means of this method it can thus be established in what way the heart-muscle responds to increased muscular activity, and it can further be decided from the results obtained whether, and to what extent, a patient can undergo muscular effort without injury to the circulation.

Cardiac irregularity in childhood. (*Ueber Herzarythmie im Kindesalter.*)—PROF. HEUBNER (*Zeitschrift für klinische Medicin*, Bd. xxvi., Heft 5 and 6, Dec., 1894).—An important paper is contributed by Professor Heubner on this subject. He begins by representing the views held by various authorities, some maintaining that it is rarely or never found except in tuberculous meningitis, whilst others say that it is a mistake to suppose that this symptom indicates affection of the brain or heart, and a recent writer goes so far as to express the opinion that the pulse is more often irregular in children than in adults, and that without influence from disease. In dealing with the subject, Heubner treats cardiac arrhythmia and irregularity of pulse as synonymous conditions, and he excludes from consideration those cases where the phenomenon is due to tuberculous meningitis and pronounced cardiac inflammatory affections. 1. The simplest and most obvious case is where irregularity is met with after poisoning. An instance is quoted of a child who had eaten stramonium seeds. On the third day there was decided irregularity of the pulse, which disappeared on convalescence. Digitalis produces a similar effect, and is noticeable likewise thirty-six or forty-eight hours after. An observation is recorded of the same result after large doses of opium in a boy of six years old. 2. Closely allied are cases of disturbed rhythm from digestive troubles. This is not an uncommon occurrence in the dyspepsia of children. Recent investigation suggests in many severe forms of indigestion the circulation of some poison in the blood—a form of anti-intoxication. Heubner gives an example in a child six years old suffering from gastric disorder, who began to show cerebral symptoms, vomiting, etc. There was rise of temperature, very irregular intermitting pulse, retraction of the head, and drowsiness. It was regarded as a case of anti-intoxication, and this was confirmed by the favourable issue and the appearance of acetone in large amount in the urine. Another case showed under similar circumstances a slow, unequal heart-beat. 3. Cardiac

irregularity may be met with in abdominal affections where no grounds exist for regarding it as due to poisoning. Particulars are given of a case of appendicitis in a girl of eight years in whom decided intermittency of pulse was present, and on a second occasion after an attack of indigestion. 4. In this most important group is considered the arrhythmia found in the course of infectious diseases. It is divided by Heubner into two groups—(1) that coming on during the development and height of the disease; (2) that met with in convalescence. The first category is much more rare. Many authors mention it in typhoid fever, but Heubner had no experience of it. Better known are those heart disturbances which show themselves during the defer-
 vescence of an infectious disease. In diphtheria they are often present, and also not infrequently in scarlet fever, of which several instances are quoted. Measles and acute croupous pneumonia are often mentioned, and a case is given where the symptoms set in late in typhoid fever. 5. Some authorities mention the occurrence of irregularity in anæmic and nervous and excitable children, and this is confirmed by the writer. He thinks it leads to a false diagnosis in many of these cases. It may be found in rachitic, weakly, pale children between two and four years of age, who are suspected probably of suffering from tubercle, and the suggestion of meningitis is only too readily accepted. Heubner quotes several interesting instances of this combination, and refers to the observations of Kreyssig, who noted palpitation in thin, rapidly-growing children during the school period, sometimes accompanied by a disturbance of the heart rhythm. 6. Intestinal parasites are said to cause cardiac irregularity, but the author has had no experience of it. 7. It occurs under certain physiological circumstances. Emotional states produce it; it has been noted during sleep, and occasionally it follows a warm bath, with subsequent cooling. 8. Finally, there is said to be an idiopathic form, though Heubner has seen no example of it. La Costa has described it as a disturbance of rhythm, which appears to form the entire disease; the children seemed otherwise well. All the above causes could be excluded, and the most striking feature was that every febrile attack led to the disappearance of the irregularity. Heubner, in discussing the mode of occurrence of the irregularity of the heart under those various conditions, refers to nerve influence a disturbance of the regulating nerves of the heart. This is the explanation in tuberculous meningitis, increased pressure on the cranial vault affecting the centres in the medulla. Irritation of peripheral nerves—such as the splanchnic depressor, etc.—disturbs the

rhythm, and would explain a continuation of such a symptom with nausea and vomiting. It is more difficult to explain it when due to poison, although we can assume an action upon the nerve centres or upon the muscle of the heart. Its onset in chronic cardiac disease has been observed by Heubner only in the stage of insufficiency. The cause of its presence in anæmic, rapidly-growing children is involved in great doubt; and the suggestion of a relatively small arterial system is founded on experimental evidence. The treatment of cardiac irregularity in children requires a careful consideration of the causes. If it is reflex, the irritation must be combated. Where poison is the cause, the stomach and intestines should be emptied, and copious draughts of water given to wash it out of the system. In the anæmic form, suitable diet and medicinal treatment are indicated. For the idiopathic variety Da Costa recommends moderate movement, limited gymnastics, frequent small meals, and sea-baths.

On cardiac asthenia in children suffering from infectious diseases. (*De l'asthénie cardiaque chez les enfants atteints de maladies infectieuses.*) By DR. SEVESTRE, Physician to the Trousseau Hospital (*Le Progrès Médical*, Dec. 22, 1894).—The author remarks that infectious diseases of the adynamic type are much less frequent in children than in adults, and that in typhoid fever especially it is not uncommon to see the disease run its course in the child without having presented the symptoms which characterise it later in life. Nevertheless, even when there are not the usual signs of adynamia, cardiac asthenia frequently occurs. It may occur rapidly and unexpectedly, but in other cases signs of cardiac weakness may have been foreseen. In the most severe form cardiac asthenia appears sometimes at the outset as syncope, which may cause sudden death; but at others, after having lasted a few seconds, it disappears, leaving the patient weak and collapsed; the pulse is rapid, irregular, compressible, or even imperceptible. The heart-beats are hurried, tumultuous, often irregular, in some cases stronger, more frequently weaker than the normal, the impulse almost or quite imperceptible. On auscultation the sounds are feeble and dull—embryocardiac condition of Huchard and Gillet; i.e., the two sounds are indistinguishable either by their tone or by the unequal duration of the long and short silence, giving the impression as regards sound of the tremor of intermittent electrical apparatus. Sometimes this condition ends in death; more frequently the symptoms subside; but even though consciousness completely returns, there is little change in the pulse, which remains shabby, or in the heart-

sounds, which are indistinct. A milder degree of the same symptoms is common, such as cold extremities, slight cyanosis, and modifications of the heart and pulse. These symptoms usually precede the functional troubles by several days, and they may be foreseen and sometimes averted by appropriate treatment. They may occur after a cold bath, and this fact often deters him from employing it in infantile typhoid, because these accidents are commoner in children than in adults. Therefore, while observation of the temperature is important, frequent examination of the heart is not less so, both from the diagnostic and therapeutic point of view. These remarks apply to other infectious diseases. Contrary to what one would expect, even in view of the heart disturbances caused by alterations in the pulmonary circulation, signs of cardiac asthenia are rarer in pneumonia, showing the importance of infection in their pathogenesis. The mechanism of the condition is complex. Alteration of the cardiac muscle plays an important rôle; but diminished arterial tension is another important factor, and it is only by keeping these two points in view that a rational and effectual treatment can be instituted. The cause of infection must be combated by internal antiseptics, encouraging elimination of toxins, prescribing cold baths, tonics, etc. Tonic treatment of the heart is specially important. For this, the most useful drug is caffeine. Whenever in a child with infectious disease the pulse becomes soft and frequent, and the heart's actions feeble, caffeine is prescribed. It is also given before resorting to cold bathing, however satisfactory the pulse may be. Hypodermic injection is the best mode of administration, the following modification of Tauret's formula being used:—

R Caffein., ʒss.
 Sodii Benzoat., gr. xxxvi.
 Aq. Dest. q.s. ad ʒijss.

One cubic centimetre (m xv.) contains gr. iij of caffeine. The author injects as much as three grains of caffeine in children of five years and upwards, twice or thrice daily as required. The injections are best made deeply into the outer part of the thigh. When for any reason hypodermic injections are undesirable, the following mixture may be used:—

R Caffein. } āā gr. xxiv.
 Sodii Benzoat. }
 Vanilline, gr. ʒ.
 Syrup. Tolutan., ʒiss.
 Rum, ʒijss.
 Aq. ad ʒiv.
 ʒss = gr. iij. caffeine.

However administered, caffeine is well borne, though sometimes cerebral excitement has been observed. Ether and camphorated oil may be used as adjuvants, but the author specially recommends "injections of artificial serum" to increase arterial tension, prepared by sterilising a solution of common salt (60 grains to the pint), of which five drachms may be injected twice or thrice daily. These injections are generally well borne, and yield good results, whether used alone or alternately with caffeine.

Myxœdema from an unusual cause. (*Myxœdem auf seltener Basis.*)—KÖHLER (*Berliner klinische Wochenschrift*, No. 41, 1894).—Köhler of Berlin has already recorded a case of myxœdema which was due to a hitherto unrecognised cause, viz., syphilitic degeneration of the thyroid gland. The patient was a woman, who presented all the classical symptoms of the fully-developed disease. The fore part of the neck was occupied by firm indurated skin, so that nothing could be felt of the thyroid. Anti-syphilitic treatment had a well-marked effect, the skin became soft, the gummatous nodules healed, and the general symptoms receded, so that a relative cure was attained. The patient died later of brain syphilis. Here the myxœdema was a symptom of a constitutional disease. A still more uncommon cause is that recently recorded by Köhler. The patient, a woman 25 years old, presented in a marked degree the symptoms of the disease. The face and lips and extremities were much swollen; so was the tongue, to the extent of making speech difficult. All movements were slow and clumsy, and the skin was brittle and dry; while the patient's disposition had undergone a marked change. She was admitted in March, 1894, to the surgical department, for an affection of the tissues in the anterior part of the neck. The history was that a swelling with redness was noticed on the front of the neck in July, 1893. Treated with poultices, it discharged blood and matter. Several operations were performed, and after the last the abscess dried up, but only for a time. On admission, in the anterior cervical region was a moderately-hard induration of the skin; in several places it had a bluish-red look, and at other points the process of ulceration extended throughout the whole thickness of the skin. These sinuses were first scraped with a spoon, and touched with the cautery. This, however, was ineffectual, as fluctuating points again appeared. Incisions evacuated a little pus, which showed the characteristic fungus of actinomycosis. The affected skin was now removed, and the thyroid laid bare. This looked as if its anterior half had

been removed and the posterior part left behind. All the diseased parts were scraped, and the parts allowed to granulate. This healed up after a time; and the general symptoms have already so much improved that the patient is practically well. The swollen appearance has quite gone, and the skin shows a wrinkled condition. The movements are quicker, and the mental condition has improved. She stated that her symptoms came on about three months after the local trouble; that she had previously a good memory and no speech-disturbance, and that gradually a numb feeling spread over her extremities. Köhler remarks that here the actinomyces slowly accomplished what a surgeon does rapidly; it destroyed the glandular tissue—not entirely, as the sequel showed, but leaving healthy parts, which probably enlarged and discharged the functions of the gland. The case was one of primary actinomycosis of the skin; and as the patient was employed in a dairy, she had opportunities of being infected by the fungus.

Myxœdema and its differential diagnosis from chronic nephritis.—M. A. STARR (*Medical News*, Dec. 15-22, 1894).—The object of this paper is to draw attention to the similarity of many of the symptoms of these two conditions. Edema occurs in acute nephritis, and is most prominent in the face and dependent parts. In myxœdema the swelling affects the forehead, the upper as well as the lower eyelid, the bridge of the nose, the lips and tongue, differing from acute nephritis; it is more intense over the masseters and in the supra-clavicular spaces, which are rarely affected in nephritis. The abdomen is more affected than the back; the limbs are uniformly swollen; the genitals are not markedly swollen. There is no pitting on pressure in myxœdema; the onset is gradual and slow, not acute, as in nephritis. In both granular kidney and myxœdema there are traces of albumen and hyaline casts; both are slow in onset, and present the same gastric and cerebral symptoms, and the pale yellow colour of skin. In granular kidney the œdema only affects the ankles and legs after standing, and is not very well marked. The skin in myxœdema is dry and scaly, a condition rarely, if ever, met with in chronic nephritis; the skin again is never stretched thin, smooth, and glossy, as in ordinary œdema, and there is also the high rouge-like colour over the cheek-bones not seen in nephritis; another symptom is the inability to perspire. In myxœdema the nutrition of the hair generally is affected, never in nephritis. In myxœdema there is usually depression of temperature, which is rare in nephritis and other diseases; this is also accompanied by a subjective

feeling of cold. The mental changes in myxœdema are mental depression, defects of memory from inability to use the mind; and the hallucinations, which frequently occur at night, are recognised as products of the mind, but are not firmly believed in, and do not become the cause of excitement; there are not the marked depressions, especially on awakening, nor the facial expression, nor the self-accusations of melancholia. The tendency of the patient generally is to dementia, from which state he can be roused to thought, and show few defects of mental action and incoherence of speech. In treatment the 5-grain tabloids of thyroid extract of Burroughs, Wellcome & Co. were used; three of these at first were administered daily, causing great cardiac distress, not relieved by strychnine; 3 grains of extract had to be taken daily, otherwise the symptoms returned. A result of treatment was a rise of temperature, not noted except in cases of myxœdema; in a case of acromegaly, in which the extract was used, no such rise was noted; nor in a case of megaloccephaly in which great cardiac distress was produced by ten tabloids.

On diseases of the thyroid gland (*Zum Kapitel der Schilddrüsenkrankungen*).—Dr. H. Sieveking (*Centralblatt für innere Med.*, 29th Dec. 1894).—The author relates the history of a patient who was under observation from May 22nd till his death on May 29th, 1894. It was a case of sarcoma of the thyroid gland with secondary general sarcoma. The chief clinical features were extreme emaciation, flabby moist skin, great enlargement of the liver, upward displacement of the chest organs, rapid pulse and respiration, œdema of feet and ankles, uniform enlargement of the thyroid gland, which was of a stony hardness, hard infiltration of cervical axillary and thoracic glands, and ascites. Intelligence and sensory faculties normal; patellar, muscular and cutaneous reflexes also normal. No signs of disease in lungs, heart, spleen, or kidneys. Nausea and occasional retching were observed. Temperature slightly subnormal. Pulse averaged 120, small but regular. Ascites was relieved by paracentesis, but rapid re-accumulation occurred. *Post mortem*, the thyroid gland was found uniformly enlarged. Capsule thin and separable; no adhesions to surrounding tissues. The gland was uniformly grey on section. The glands in the neck, axilla, etc., hard and infiltrated. Clear white nodes were found on the epicardium of the left auricle and along the longitudinal sulcus. Heart muscle flabby. Valves normal. The liver capsule was closely adherent to the diaphragm. The whole substance was beset by numerous soft nodes. Gall duct was thickened, but patent.

The omentum was converted by a grey neoplastic tissue into a firm thick covering. The peritoneum was covered over by superficial white nodes, which, in the true pelvis, formed a continuous coating. Mesenteric glands also were infiltrated. There was thickening of the right pelvis and ureter. Nodes were found in the medulla of the long bones. Microscopical examination showed that the thyroid consisted of a uniform mass of round cells with large nuclei interwoven with narrow bands of connective tissue and isolated thin-walled vessels, between which there were only slight traces of normal gland cells with colloidal contents. In all the nodes in liver, etc., there were found collections of metastatic cells with large nuclei. The diagnosis lay between simple hyperplastic struma and carcinoma ventriculi, with metastasis to the liver and peritoneum. The autopsy and microscopical examination first showed that it was a primary tumour of the thyroid which had not invaded the adjoining tissues, or caused metastasis there, but, in accordance with the character of sarcoma, had apparently induced general sarcoma through the blood. The striking features in the case were the exceptional occurrence of round-celled sarcoma, and, further, the likewise exceptional incident that the new tissue had involved the whole gland, causing equal enlargement and hardening. The author has only found three recorded cases, in which the gland substance was quite destroyed by the new growth. One was described as myxosarcoma; the two others as spindle-celled sarcoma. This case, however, derives special interest from the results of recent therapy in the treatment of thyroid diseases, and the author lays stress on the fact that in this case, in spite of the almost absolute disappearance of the thyroid, there were no symptoms of myxœdema or tetany. Hence, he concludes that destruction of the gland, *per se*, need not produce the characteristic signs of tetany or myxœdema; that, moreover, possibly similar relative changes may here rule, as between disease of the suprarenal capsules and Addison's disease, which is of importance in regard to the unmistakable therapeutic result referred to above; but it may be pointed out that Greenfield warns us against laying too much stress on thyroïdal changes for the explanation of the complex symptoms mentioned. It is apparent in this case that the trifling remains of the thyroid dispersed in the tumour mass were sufficient to prevent the development of the specific disease which would have been of the greatest interest for the clinical observation, but also would have conduced to the establishment of an exact diagnosis.

The management of convalescence and the after-care of the insane.—H. R. STEDMAN, Boston. (*The Journal of*

Nervous and Mental Disease, New York, Dec., 1894.)—*There is a disregard of general advice as to prevention of insanity in the person and offspring of the predisposed: the results of this are seen in the marriage of the mentally unfit; some are so tainted by inheritance that nothing can prevent the outbreak at one or other period of life; unfortunately no advice is sought until it is too late. Patients are alive to danger only after experiencing an attack: here disclosure of any taint either acquired or inherited is usually concealed by the relations. Sometimes over-caution results after an attack, and at such times advice is usually gratefully received, especially by the intelligent, and immediately after an attack is more likely to be acted upon. The management of convalescence often determines the question of second attack or length of remission: in the early stages of acute mania or melancholia little is usually possible beyond prevention of harm and caring for the bodily needs; it is when the mind is endeavouring to readjust itself to old impressions that right influences and healthy surroundings are most necessary. Short convalescences and sudden recoveries are rare, and chiefly met with in cases of short duration and with a neurasthenic basis; they have also been reported in acute mania, melancholia and the toxic neurotic forms. Occasionally physical complications, such as acute diseases, affect both the suddenness and the fact of recovering. Lucid intervals and spurious convalescence: of those occurring suddenly one is suspicious. Far more frequently they prove simply to be spurious, and the relapse is equally sudden; sometimes they prove true omens of ultimate recovery. Of all no sign of true convalescence is so sure as the cessation of a decided fear of a relapse, and the patient's mortification at the supposed stigma resulting. Importance of familiarity with the immediate prodromata of an attack and minor conditions natural to the patient in health: often an attack will pass off repeating inversely the phenomena of the onset; again the manifestations of former slight ailments, not in evidence during the acute stage, are often valuable signs of impending recovery; and, lastly, backward steps are often the truest omens of recovery. Dangers of overstrain in mental application during convalescence from acute mania: Mental application is likely to cause harm where there has been intense morbid over-activity of the brain, and oftentimes there is difficulty in restraining it with the feeling of returning health. In such cases, interesting occupation in the open air involving no mental effort is beneficial. Melancholics, on the contrary, are often benefited in that way; but here, too, caution is requisite. Confusional insanity and mental*

disorder after *la grippe* should always be treated as cases of nervous exhaustion, and, are, up to a certain point, always benefited by being under immediate medical care. During menstruation, especially where there has been periodical exacerbation at that time, rest is always imperatively necessary. *Cases in which stay in an asylum should be prolonged:* Too early removal in the great bulk of cases, especially in melancholia with suicidal impulse and in acute mania, is harmful. Among the poor and those of moderate circumstances the same rule applies to the remissions in general paralysis of the insane. *When early discharge is desirable:* This is particularly the case in melancholics, where a good result often follows, especially where there is a refusal to eat, but in other symptoms there has been a steady improvement. Home-sickness will often degenerate into a fixed idea or delusion, and the patient will then run back. Other cases are those morbidly anxious about their own health, who constantly find some new ailment; and, lastly, there are certain cases of a reasoning type, *mania mitis*, who are irritated by the discipline of an asylum, but are benefited by the pressure of outside life. The more the treatment approaches the individual rather than the number, the more is a change to different and more rational surroundings appreciated when convalescence sets in. *Recovered patients—their critical condition for the first year of discharge—precautions necessary:* e.g., where parturition has been the exciting cause, the patient should be warned against a second pregnancy. Again the question will crop up, Would an entire change in occupation benefit? Sometimes in well-defined cases of periodical insanity, in the short prodromal stage of physical symptoms, change and treatment by bromides is often beneficial. Many a growing depression has been alleviated by a timely visit to a physician. *Absence of provision for the after-care and assistance of recovered improved paupers discharged from asylums:* Unlike general hospitals or prisons, asylums make no provision of convalescent homes where their patients may invigorate their often shattered physical and mental health. In a few states a new outfit of clothes and a little money is given. *Means employed in foreign countries for the after-care and assistance of pauper patients:* In France aid societies (*Sociétés de Patronage*) aid patients by gifts of clothing, tools, payment of rent, obtaining an admission into convalescent homes, finding them employment, and supervising them. Further, these societies are authorised to invest the savings of the insane and remit the interest. All this is done under the direction of the Government. In England, where the subject was brought forward in 1879 by the Chaplain of the Colney Hatch

Asylum, an After-Care Association has been formed. Its action takes the form of home visitation, finding employment, and obtaining admission to convalescent homes. Switzerland aids convalescents by providing employment and giving pecuniary aid.

SURGERY.

Surgery of the Gasserian ganglion.—The frequent failure to obtain relief by medicinal treatment alone in trigeminal neuralgia, makes the two following papers of great interest.

(i) **Two cases of resection of the trigeminal nerve** (*Due casi di resezione del trigemino*).—PROF. ANTONINO D'ANTONA (*Il Policlinico*, Nov. 15th, 1894).—From experiments Prof. d'Antona finds that resection of all three branches of the trigeminal and of the supra-ganglionic trunk cannot be performed without risk of mischief to the eye; and he holds that the patient should be warned of this danger, as well as the greater danger, *quoad vitam*, when neuralgia affects the ophthalmic as well as the other two branches. For this reason several patients have declined surgical interference. He reports two cases of severe neuralgia of the two lower branches, in which a modification of Rose's operation was followed by the most satisfactory results. His incision commences at the external orbital process, passes vertically downwards to the lower margin of the zygomatic arch, and then follows the latter horizontally to the pre-articular tubercle; from this point it passes vertically upward parallel to the first incision. The lower margin of this quadrangular flap is freed from the zygomatic arch and turned upwards, dividing the two layers of the temporal aponeurosis attached to the upper margin of the arch. The arch is thus bared and then drilled in four points, two at each extremity; it is next sawn through between each pair of holes, so that each extremity of the fragment has a hole corresponding to one in the remaining portion of the arch attached to the skull. From the two extremities of the horizontal incision two others are made—one, of three-quarters of an inch, is carried down along the ascending ramus of the jaw; and the other of $1\frac{1}{4}$ in. passes obliquely downwards and forwards almost to the genio-labial sulcus. The divided zygomatic arch is then turned downwards, with all its cutaneous and muscular attachments. The coronoid process is resected, and turned upwards with the temporal muscle, aponeurosis, and skin. The external pterygoid is then exposed, and its fibres separated as near as possible to the sphenoid fossa; the internal maxillary and secondary branches are tied. The submaxillary nerve is now

exposed and traced to its exit from the foramen ovale, in front of which—after clearing the periosteum—a trephine slightly modified from Rose's is applied. On removal of the disk of bone the dura mater is seen clearly and with little loss of blood. By getting away the small bridge of bone separating the trephine opening from the anterior margin of the foramen ovale, the opening in the base of the skull is large enough easily to permit the turning inwards of the dura mater with a long, blunt elevator. With the third branch as a guide, the second is isolated with a hook. Traction on both reveals their commissure in the ganglion; and with a small, long, curved, cutting spoon, it is excised in its inferior portion corresponding to the fibres of these two trunks. They are then distally resected as long as possibly. The wound is now closed by re-attaching with silver suture the two parts of the coronoid process (previously drilled), wiring the zygomatic arch, and, finally, suturing the skin-incision. A small drain was carried from the pterygoid region out through the antero-inferior wound. The first patient had suffered from neuralgia for six years. For the last ten months the pain had been almost continuous, extending to the cheek, the temporal region, the inferior maxilla, and the corresponding half of the tongue. In addition to this continuous pain she was subject to crises—as many as fifty per day—during which the pain spread to her eye and arm, with convulsive epileptic movements of all the muscles of the face, eyelids, tongue, and lips. Her condition was most pitiable. There was no suspicion of syphilis, and she had been treated with antisyphilitics, quinine, electricity, etc. From the moment of operation she was free from neuralgia. She had complete loss of all forms of sensibility in the entire half of face and tongue. Sensations of touch and pain commenced to return after twenty days. The lower jaw was at first limited in its movements, but gradually recovered. A year and eight months after operation the patient was reported to be in flourishing health, with only some anæsthesia above and below the zygomatic arch. Prof. d'Antona contrasts his incision with that of Rose, which resembles a double L, and which, according to him, is apt to damage the branches of the facial and Stenson's duct. In the second case, the infra-orbital nerve was less affected; and, owing to hæmorrhage during operation, the author had to content himself with resection of the third branch only. However, the result was most satisfactory; and the cessation of neuralgia in the infra-orbital is ascribed to the modification in its nutrition produced by pressure, etc., as well as by influence on its ganglionic origin. The cure was maintained fourteen months after operation. The paper is accompanied

by a plate contrasting the normal and morbid histology of the ganglion.

(ii) **Removal of the Gasserian ganglion for facial neuralgia (successful case).**—MAURICE H. RICHARDSON, M.D., and GEORGE L. WALTON, M.D. (*Boston Medical and Surgical Journal*, Nov. 1st, 1894).—In this case the author decided to adopt Horsley's operation in preference to Rose's, because he deemed a clear view of the ganglion and its branches a most important consideration for its intelligent and safe removal. Rose's operation involves, as Keen pointed out, working more or less in the dark through a very small opening, thus adding not only to the difficulty of removing the parts desired, but also to the dangers of injury or destruction of contiguous important structures, notably the internal carotid artery, the cavernous sinus, and ocular nerves. The middle meningeal artery can scarcely be expected to escape by either method. Hemorrhage, only controlled by packing with gauze, at one part threatened to compel postponement of the completion of the operation. Three years previously an extra-cranial operation had been performed in this case, when the second and third divisions of the nerve had been torn away at their foramina of exit, with an immediate good result. An incision was now made through the old scar in the left temporal region, elliptical in shape with its convexity upwards; the squamous portion of the temporal bone was exposed and a small trephine-opening was made just posterior to the temporo-sphenoidal suture; the posterior branch of the middle meningeal artery was divided at this point, and was only secured by enlarging the aperture. In separating the dura mater lining the middle fossa, where it was very thin, it was considerably torn. The subarachnoid space was entered, and with a silver spatula the temporo-sphenoidal lobe was easily elevated. The ganglion was then easily found, and also, when the hemorrhage ceased, the point of exit of the fifth nerve through the dura mater to enter the ganglion. Along the anterior edge of the petrous portion the dura mater was incised and raised by the blunt dissector, and the mass of the ganglion reached. The safest way to remove the ganglion is to isolate it by blunt instruments; to cut with scissors its proximal attachments; and, lastly, to destroy it by avulsion between the jaws of powerful forceps. For avulsion, forceps with tapering points are most convenient; the motor portion of the nerve is only saved by the merest chance. Hemorrhage from an unknown source was only checked by letting the brain fall into place; drainage of the wound was provided for by a piece of gauze extending into the middle fossa. At

first there was aphasia, which disappeared in five days. After two weeks there was some slight loss of memory, especially of names; numbness in the area of distribution of branches of the fifth; the pupils were equal, but the left did not react so well as the right; there was some injection of the left conjunctival vessels; the jaws opened readily; the forehead on the left side was smooth (as before); the left eye is partially closed and the lid droops; the mouth is slightly asymmetrical, but the lip-movements are perfect, and the movements of the eyes are not affected. After the operation there was no pain. In long-standing cases of trifacial neuralgia in elderly subjects, the author thinks that modern feeling is to operate early. Still he feels that in elderly or feeble subjects the division of the nerve at the infra-orbital or mental foramen ought to be first of all essayed; next the deep operation on the second and third branches at the base of the skull before avulsion of the ganglion is practised, which ought to be the last resort. The chief objections to immediate procedure to the operation are the intrinsic dangers and difficulties, together with the possible danger to the eye from destruction of the first branch of the nerve. Could the mortality be reduced, and non-recurrence guaranteed, Keen would advocate it at once. In reference to injury to the eye, either intentionally or accidentally the first branch and the part of the ganglion attached are often left behind; Tiffany recommends that they should be always left. In only one case (Rose) has panophthalmitis supervened, with consequent destruction of the organ. In one case (Lanphear) suppurative conjunctivitis, allayed by a mild bichloride lotion, occurred. Rose's operation has been followed in about half the cases; Horsley in one case undertook the removal through a trephine-hole in the temporal region, with elevation of the brain and removal after cutting through the dura mater and detachment of the root from the pons; in this case the patient died in seven hours from shock. At present the Krause-Hartley method, when opening through the temporal region, is usually preferred. Rose's objections to Horsley's operation are (i.) the difficulty; (ii.) the double opening in the dura mater; (iii.) the removal of bone; (iv.) disfigurement; (v.) injury to brain; (vi.) intracranial hæmorrhage. In Rose's method the difficulty and hæmorrhage are not wanting, and the piecemeal removal of the ganglion without a clear view of the important structures around quite counterbalance the other dangers. The injury to the brain is most likely to be confined to the speech-centres, with only temporary impairment to them; temporary oculo-motor paralysis has been known to take

place. Probably the lateral operation diminishes the danger to the internal carotid, and to avoid injury to the cavernous sinus Rose suggests leaving the first branch which is attached to it. Other advantages of the lateral operation are the mobility of the jaws, the zygoma is not removed, the ganglion and its root in the pons are completely exposed, the danger of injury to important structures is minimised, and, lastly, the avoidance of sepsis from the pharynx. The mortalities of Hartley's method and Rose's are equal—two in nineteen. Two important points to note are the occasional contiguity of the carotid canal and foramen ovale, and the relative positions of the third branch and the middle meningeal, on which account Taylor recommends tying the artery at once if the nerve is difficult of access. Taste persists at the tip of the tongue after these operations, a fact hard to reconcile with our views of the course of the taste-fibres through the trigeminus. The paralysis of the muscles of mastication affords some discomfort, though not material, compared with pain; and the impossibility of sparing the motor root is at once apparent. Temporary aphasia may be expected in the lateral operation, and temporary injury in all (less in the lateral) to the ocular nerve; the chances are against any lasting injury to the brain.

Tubercular tumours of the cæcum.—A. H. PILLIET and P. THIERY (*Progrès Médical*, Nov. 24th, 1894).—If a localised chronic tubercular formation in the brain be allowed the name tumour, so also, the authors think, may result of chronic localised tuberculosis of the cæcum. The case was that of a woman, aged 59, who said she had frequent attacks of jaundice and nightsweats in the past five years. For twelve months she had been aware of a painful swelling in the right groin. The patient was obliged to go to stool soon after every meal, and she had frequently noticed blood in the motions. On examination a lump as large as a closed fist was felt in the right iliac fossa. It was hard and seemed to be incorporated with the abdominal wall. It was sharply defined, and appeared as if attached at its lower end to Poupart's ligament. Some observers considered it to be a fibroma of the abdominal wall, others an osteoma. An incision was made over the tumour, which was found to be firmly adherent to the anterior abdominal wall. When the mass was opened by an incision it proved to be the cæcum which was nearly filled by fungating growth. The wound was plugged with gauze. After the operation, the state of hectic fever continued unabated; there was much coughing, and once a rather severe hæmorrhage from the wound. The patient died fifteen days after the

operation. After death both lungs were found to be studded with tubercles. From the cæcum tubercular peritonitis could be traced as high as the right hypochondrium and along the ascending and the transverse colon. The external iliac glands had suppurated, and the abscess had burrowed along the iliac and femoral vessels. The record of the case is illustrated by three drawings.

OPHTHALMOLOGY.

Monocular diplopia in hysteria (*De la diplopie monoculaire chez les hystériques*).—DR. FÉLIX LAGRANGE (*Journal de Médecine de Bordeaux*, Jan. 6th, 1895).—Monocular diplopia arises from one of two causes—optical defects and changes in the brain centres. The commonest forms are malformations of the cornea, iris, and lens. In the cornea polyopia is due to irregularity of curvature or to opacities; in the iris to apertures, either congenital or traumatic, and the patient sees as many objects as there are apertures; with the lens, it may be due to irregularity in the disposition of the sectors of the lens, or their unequal refractive power whereby the images from each do not coincide on the retina; lastly, to hypermetropia or myopia, and the object being placed out of the limits of distinct vision. Apart from defects, it may arise from images of other objects being formed on the retina while the eye is fixed on any point. Parinaud considers that hysterical diplopia is due to spasmodic contraction of the ciliary muscle; Galezowski would add to this a strong myopia. Charcot instances, in further support, the diplopia produced by instillation of atropine and eserine, not so marked in the latter case because of the concomitant myosis. In the view of the writer this opinion does not agree with facts, especially in hysteria. In the patient the subject of this paper M. Lagrange noted simple diplopia and imperfect vision, of which the patient herself complained; its persistence at all distances of the object; visual acuity weakened, but a great difference of the objects in the light, and the false image is always vertically superposed on the true; the images are always 4c. to 5c. apart; no megalopsy nor micropsy; without hesitation the true image was pointed out with the finger; no contraction of the ciliary muscle, and double vision at all positions; diplopia suddenly cured by an empirical procedure—application of cautery to conjunctiva, with a visual acuity moderate, but somewhat diminished from habit. These symptoms are all diametrically opposed to the classic description. Further, there were the usual contraction of the visual field and the colour transpositions. Since spasm of accommodation will not explain these phenomena, the only source left is a

central origin. Galezowski has pointed out the cerebral origin of a diplopia in a case of Duchenne's, and in two cases of his own, one of which was a partial hemiplegia and the other of cerebellar disease. Bouveret and Chapotot have related a case due to tubercular deposits in the cerebral peduncles, perhaps due to a defective accommodation, first of all caused by spasm, later by paralysis, as the tumour was placed near that centre. Duret's observation is liable to the same objection, because it was not certain that the paralysis of accommodation, from an injury to the cortex, observed in his case, was not the principal cause of the diplopia, the fact of double vision not existing in all positions of the object not being enough to exclude this explanation. Brunschwig and De Fontan have more recently published cases of monocular diplopia, possibly cerebral in their origin. Brunschwig's case was a well-marked hysteric, with a squinting right eye; when this began there were, on the eyes being opened, several returns of the diplopia, and to this strabismus the patient attributed the diplopia. Fontan's case was a tuberculous youth, who, after an injury, had monocular diplopia, with contraction of the visual and chromatic fields, the only ocular defect was a slight hypermetropia; it was attributed to an unexplained cerebral origin. Duchenne has admitted that the retinal image transmitted along each tract may, by an injury to the tract, be doubled. The author considered the diplopia in this case as a hallucination of hysterical origin, with the chief interest attaching to the absence of any disorder of refraction.

PATHOLOGY.

Protozoa in a liver abscess (*Protozoen in einem Leberabscess*).—FRITZ BERNDT, in *Strahlsund (Deutsche Zeitschrift für Chirurgie*, Bd. 40, p. 163, 1894).—The author traces the history of the subject, and records the following case. A woman, aged 39, was supposed to have passed through a slight attack of typhoid fever, though the pyrexia lasted only for ten days. For eight days afterwards she had felt well, when a severe rigor set in, with pain in the right side. Some days later, when the author first examined her, there was a slight evening rise of temperature, increase of liver dulness, in the whole extent of which was a doughy swelling. The breath-sounds in the lower part of the right lung were weaker than normal. A subphrenic abscess was diagnosed, and this was made certain by pus being obtained on aspirating below the eleventh rib. The patient was put under anæsthesia, and about two inches of the tenth rib in the posterior axillary line were excised. The pleura was opened, and in the wound

the diaphragm was seen to be covered with healthy pleura. The latter was excised, and two pints of foul green pus escaped. A large ragged cavity was found, and into this was passed a drainage-tube, around which iodoform gauze was packed. The cavity closed, and there was no reaction on the part of the pleura. Two months later a small abscess pointed in the linea alba, and was opened. The patient left the hospital cured five months after the operation. Commenting on the case, the author observes that abscess of the liver is rare in cases of typhoid, and that Rombertg mentions three modes in which it may arise in this disease:—(1) By ulceration of the bile-ducts; (2) by suppurative pyophlebitis; and (3) as part of a general pyæmia. The author comes to the conclusion that the abscess had its origin around one of the larger bile-ducts. Microscopic examination both of the pus obtained by aspiration, and of that obtained on opening the abscess, showed, besides blood-corpuscles, fat, and bacteria, "peculiar pale structures, of diameters varying from four to twelve times that of a red corpuscle." Two groups were distinguishable:—(1) Round, oval, reniform and irregular bodies of single contour. Some of these possessed a definite nucleus and nucleolus, others were homogeneous and non-nucleated. (2) Doubly-contoured organisms with highly refractory borders and multiform in outline. From the border in some shining bands passed into the interior, so that the parenchyma of the organisms seemed to be divided by septa. Some had a doubly-contoured nucleus; others were non-nucleated." The organisms showed what the author describes as passive amoeboid movement. The surgical treatment of the case certainly does credit to the operator, but it is a question whether the bodies described and figured by the author are of the same nature as those first described as protozoa by Kartulis in tropical dysentery; and, indeed, the reader is left in doubt on two heads: first, was this a case of typhoid? and, again, were the bodies protozoa at all?

The attenuated bacillus tuberculosis: its use in producing immunity to tuberculosis in guinea-pigs.—DR. DE SCHWEINITZ (*Medical News*, Dec. 8th, 1894).—The author began with cultures of the second generation on rabbit's blood-serum. These were then grown for several generations on glycerine-agar for about two months, then in glycerine beef broth, as a source for tuberculin. With the fourteenth generation, in guinea-pigs always kept inoculated to test the tuberculin, the disease took six months to develop, and with the twentieth did not develop. Next he inoculated nine pigs—four checks, four pigs previously inoculated with

the attenuated germ, and one pig that received tuberculin by feeding. These were inoculated from the gland of a freshly-killed tuberculous cow. In seven weeks the checks died, the rest remained healthy. Experiments showed that as the preparation of tuberculin continued, it was more constant in reaction, and a larger amount of the active principle was yielded by cultures of the older germ. A calf from a diseased cow did not respond to an injection with tuberculin; it was then drenched with 100 c.c. of an active, growing liquid culture of the twentieth generation, and killed three months later after failing to respond to an injection of tuberculin; it was found healthy. A cow received an injection into a vein from the same generation; it had a temperature of 103° F.; four months later, then thin, it was injected with tuberculin, and did not react. Another animal, known to be tuberculous, received a like injection, and showed a good reaction. Where the first cow was inoculated, a lump about the size of an egg formed. The negative diagnosis has to be confirmed by autopsy. With difficulty up to the fourth generation, and afterwards without the least, the author has used the following formula for his culture liquid:—Water, 1,000 c.c.; glycerine, 70 grms.; acid. pot. phosph., 1 grm.; ammon. phos., 10 grms.; sod. chlorid., 10 grms.; asparagin, 3 grms.; mag. sulph., 2 grms. After a certain amount of growth in this medium, increase after three or four months ceases, either by exhausting the nutriment, or the development of enough poison to check it, the germs still floating on the top of the medium. A fatty acid, with difficulty volatilised by steam, imparts a peculiar odour to the liquid; at first the medium is slightly alkaline, afterwards acid. Finally, to test if the apparent loss of virulence of the germ might be due to some of the products contained in its body, two guinea-pigs were inoculated with germs of the twenty-third generation, carefully washed with sterilised water, but they remained healthy. The only fallacy in these experiments is that the period of incubation of tuberculosis is so long, and animals apparently healthy might have succumbed later on. Still the check animals died so promptly that apparently a true immunity had been secured by an attenuated germ. The conclusions to be drawn from these experiments are: (a) that guinea-pigs may apparently be made immune to an active virus by an attenuated germ; (b) small injections of tuberculin increased an apparent immunity secured by injection with an attenuated culture; (c) others, again—the immunity not tested by an active virus—were inoculated with an attenuated virus still alive and well, and the control animals healthy at an autopsy.

New Inventions, Instruments, Foods, etc.



Morin's Antiseptic Diffuser.—This is an extremely ingenious instrument by which alcoholic or watery solutions can be quickly diffused through the atmosphere. The fluid is placed in a boiler which is tested for a pressure of 18 kilos., although the actual amount when the machine is in action never passes $1\frac{1}{2}$ kilos. The metal stopper D can be securely screwed in. Within a few minutes of heating the spirit lamp E, the vapour issues from the two capillary tubes c and c', and impinges on the fans of the rotatory disc B. This latter is set in rapid motion, and diffuses the antiseptic far and wide. The vapour, being superheated, is absolutely dry, and is therefore free from many objections of the ordinary spray. It is simple, safe, rapid, and elegant, and is one of the best arrangements we have met with for distributing antiseptics, perfumes, etc. It is sold by Messrs. Roberts and Co., 76, New Bond Street, W.

A WELL-DESIGNED chart for recording cases of diphtheria has been sent us by Messrs. Adlard and Son, of Bartholomew Close, E.C. It is specially arranged for recording the effects of serum therapy, and should greatly facilitate the collection of complete observations.

Liquor Cinchonæ Hydrobrom (Fletcher).—The sample supplied by Messrs. Fletcher, Fletcher and Co. proves to be a genuine and valuable addition to the list of cinchona preparations. Being a highly concentrated hydrobromic extract, it is not likely to cause uneasiness to any patient, however susceptible to quinism; it mixes readily with water, and no unsightly and unpleasant tannates are thrown down; it is palatable; and it can be dispensed with iron compounds—particularly the bromide of iron—without producing decomposition, blackening, or precipitation. It is a valuable aromatic tonic.

Practical Notes.

It is related of Dr. Moxon that he said: "If I were an Examiner in Medicine I should ask a candidate—'What would you do if a young adult came to you with signs of organic disease within the cranium?' and if he did not say he would at once give iodide of potassium, I would send him down three months to think it over."

THE *ne plus ultra* of antiseptics has surely been reached when we are solemnly advised to disinfect the coins we receive in fees! According to Professor Démosthène, of Bucharest, a prudent physician should provide himself with a metal purse which can be sterilised. He should not only disinfect his hands before leaving the sick-room, but on reaching home should again wash them, and at once place his purse and his fees in the steriliser.

LOCAL anæsthesia, lasting for about five minutes, can be quickly obtained by using the following mixture in a spray:—

R Menthol ʒss.
Chloroform ʒv.
Ether ʒj.
M. ft. Nebula.

S. To be used with a hand spray.

A SMALL addition of sugar increases the solubility of borax. It is used in the following powder for this reason, and also because it makes a more agreeable compound and assists in separating the other ingredients:—

R Sodæ Biborat. ʒss.
Sodæ Bicarb. ʒss.
Potass. Chlorat. ʒss.
Sacch. Alb. ʒj.

Ft. pulv.—S. A teaspoonful to be dissolved in half a tumbler of tepid water.

This forms a pleasant, cleansing, and alkaline lotion, which can be used as a gargle or as a nasal douche. The powder can be kept made up in packets in a portable form, and the lotion prepared freshly as required.

BALSAM of Peru is a useful addition to many ointments, both on account of its pleasant odour and because it is in itself a valuable non-irritating antiseptic. When added to vaseline it is much more readily mixed if a few drops of alcohol or castor oil are added. Vaseline is much more miscible with water if a small quantity of castor oil is added. The following may be recommended to allay the cutaneous irritation of measles, chicken-pox, etc. :—

R Lanolini puris ℥j.
Vasellini ℥iij.
Olei Ricini ℥iij.
Aquæ Destill. ℥v.

Ft. ung.—S. Apply as required.

Preparations of vaseline or paroline can have a pleasant odour given to them by the addition of a few drops of oil of wintergreen.

THE treatment of pneumonia by large doses of digitalis is the subject of an article by Dr. J. Bloch, in the *Gazette Médicale de Liège*. He used an infusion made with one to two drachms of digitalis leaves in 8 ozs. of water; a table-spoonful was given every hour. He concluded: (1) That small doses have no effect. (2) That large doses may abort an attack; but that the remedy should be suspended for one or two days if no improvement results after giving two drachms of the leaves. (3) That the respiration is not necessarily slackened, but in the majority of cases becomes quicker. (4) That the infusion is less toxic than the leaves in powder, which contains the insoluble digitoxin. (5) Strong infusions are contraindicated in children and old people. And (6) that it is useless in small doses, long continued. Effects should be carefully watched, and treatment interrupted when pulse and temperature fall.

FOR chapped hands and face, or for fissured or sore lips, a useful application is Friar's Balsam. It can be ordered thus :—

R Tinct. Benzoin. Comp. ℥x.
Alcohol ℥ij.
Aq. Rosæ ℥ss.
Glycerini ad ℥j.

M. S.—Apply to chapped surfaces at night, after they have been washed with soap and warm water and thoroughly dried.

AN antiseptic mouth-wash recommended by M. Maurel in
La Médecine Moderne :—

R Alcohol ℥ij.
Tinct. Eucalypt. ʒv.
Tinct. Cinnamoni ʒijss.
Tinct. Rosmarini ʒjss.

M. S.—A teaspoonful to a glassful of warm water.

WHEN bromoform is ordered for pertussis, care should be taken that it is prescribed with syrup of lemons and gum arabic to form an emulsion, and the nurse should be instructed to shake the bottle well before pouring out a dose, and never to use the last two or three doses in the bottom of the bottle. Neglect of the first rule will prevent the drug from having a fair trial, and if the second is not observed a toxic dose may be given.

LÖFFLER'S formula for the employment of toluol in diphtheria was originally as follows :—

R Alcohol ℥ij.
Toluol ʒj.
Liq. Ferri Chlorid. ʒj.

To render the application less painful he substituted 60 grains of menthol for an equivalent quantity of toluol. Where sulphur compounds occurring in the tongue and false membrane decompose the ferric chloride, 30 minims of creolin is substituted for it. The mixture should be applied every three hours until the temperature becomes normal and the general condition satisfactory.

PROFESSOR HUCHARD prescribes tincture of iodine combined with chloroform in cases of vomiting :—

R Tinct. Iodi. ʒj.
Chloroform ʒj.

Ft. guttæ.—S. Five drops in water before meals. Lasègue orders it particularly in the vomiting of pregnancy. It may be given with peppermint water.

PROFESSOR TARNIER employs the following lotion when intra-uterine douches are required after confinement :—

R Tinctur. Iodi. ʒj.
Potassii Iodid. ʒjss.
Aquæ Destill. Oij.

Ft. lotio.—S. For external use.

CREASOTE can be administered in capsules, either alone or with balsam of tolu (Sommerbrodt). When given in mixture, Fränzel prescribes it with tincture of gentian and sherry. Professor Jaccoud orders one minim with twenty drops of glycerine and two teaspoonfuls of whisky. If a cheaper and non-alcoholic form is required, it can be given thus:—

R Creasoti pur.
Olei Olivæ āā ʒij.

S. Five to ten drops in milk, three or four times a day.

ARISTOL as a dressing for burns is recommended by Professor Haas, on account of its anæsthetic action as well as for its antiseptic properties. The seat of the burn is washed with boracic lotion, the vesicles opened, and the burnt area covered with aristol gauze, over which sterilised cotton, gutta-percha, and a bandage are applied. When the secretion has diminished, aristol can be dusted on or applied in a 10 per cent. ointment.

HYDROCELE is treated by Neumann, of Vienna, by withdrawing the fluid in the ordinary way with a trocar and cannula, and then leaving the latter in the hydrocele sac to act as a drain. A slightly compressing bandage is applied over a thin layer of cotton wool. The cannula is removed on the second or third day. Dr. Morgan Vance has developed this idea by completely transfixing the hydrocele sac, passing a fenestrated drainage-tube through the cannula on withdrawal of the trocar, and, finally, removing the latter and leaving the rubber tube *in situ*. For two or three days the sac is irrigated through the tube with some mild antiseptic. The tube is shortened at the end of three days and then removed. A general anæsthetic is not required, and the method is simpler than the open incision, which is at present the favourite method.

A TONIC form of administering iodide of potassium, and one which is not likely to produce iodism, is prescribed as follows:—

R Potassii Iodid. gr. v.
Ferri et Ammon. Cit. gr. v.
Tinct. Nucis Vom. ℥ v.
Tinct. Quiniæ ʒss.
Syrup. ad ʒij.

Ft. dosis.—S. Two teaspoonfuls in water after meals.

THE PRACTITIONER.

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Original Communications.

ON SOME POINTS IN THE TREATMENT OF THE GRAVEST FORMS OF CARDIAC DILATATION.

BY SIR DYCE DUCKWORTH, M.D., LL.D.,

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THE clinical practice of a large general hospital furnishes, without cessation, many examples of cardiac disease in the later stages of their course. In a large majority of these cases the distressing symptoms are coincident with, and dependent on, dilatation of the several cavities of the heart; and with this condition are associated more or less general anasarca, venous engorgement, tumidity of the liver, gastro-enteric catarrh, nausea, and the respiratory difficulties due to pleural dropsy and pulmonary cedema. In the final stage there often comes, in addition, a free hæmoptysis, due to pulmonary apoplexy. In the antecedent history of many of these cases rheumatic endocarditis and pericarditis are found to have played the most active part. The incidence of these disastrous troubles is, as is well-ascertained, largely upon the female sex, and the number of young lives thus afflicted and cut short is a very sad fact to bear witness to in medical practice.

In the following remarks I desire to point out how such cases may be best relieved, and to note in particular the value of certain remedial measures. This constitutes an important chapter in palliative medicine, for, alas! we can speak of no more than this; and here, as in other cases, we have an

imperative duty to perform—viz., to relieve our patients and to avert the tendency to death, although we know we shall be beaten in the long run.

Hospital experience exhibits such cases as I allude to in the worst forms. The patients are often admitted almost *in extremis*—semi-collapsed, livid, panting, and well-nigh pulseless. They are too ill to be examined. A physiognomical diagnosis reveals to an experienced eye as much as is necessary to determine what must be done forthwith. If the heart be examined cursorily, it is found to be acting tumultuously, and no murmurs may be detectible, the two sounds closely resembling one another.

In such a case, especially in a young female patient, one may almost certainly predicate the condition of mitral stenosis, with all the varied troubles which come out of such a mechanical obstacle. Rest, adjusted pillows, a warm bed, and warmth to the feet are the prime necessities; and often these measures prove helpful after some hours of quietude. Occasional draughts of Hoffmann's anodyne are exceedingly useful. This remedy (Spir. *Ætheris* Co.) is too commonly employed in inadequate doses. Forty to a hundred minims may be given in an ounce of camphor or peppermint-water, and repeated every three hours.

In some of these cases the question of venesection presents itself, and any undue lividity of surface or turgescence of jugular veins should suggest the propriety of bleeding from the arm. Not less than 6, or more than 10, ozs. of blood may sometimes be removed with distinct relief to many of the urgent symptoms. One may sometimes wait twelve hours before deciding on this course, to discover whether there is a tendency to subsidence of the more pressing difficulties.

If venesection is likely to prove difficult, great benefit may be secured by putting on six or ten leeches over the præcordia. These methods are a little outside the ordinary practice of to-day, but they served our forefathers in the profession, and they will no less prove of use to our patients now; for there can be no fashion in the verities of medicine, and he is no physician who allows his patient to take part in the conduct of his case.

Subsequent examination of such a patient will commonly reveal the presence of the several conditions I have already mentioned: anasarca, swollen liver, etc. The condition of the heart may now be determined, and the valvular lesion or lesions definitely ascertained. Murmurs may develop as the tumultuous action subsides. Indications of dilatation, super-added to hypertrophy, are present, the chambers more particularly affected varying somewhat, according to the specific valvular lesions. Pericardial or pleuro-pericardial adhesions may add greatly to the gravity of such cases.

Within a few days, in response to rest, careful dieting, a saline aperient (than which none is better than the *Mist. Sennæ Co.*, \mathfrak{zj} to \mathfrak{zjss} , with a drachm of tincture of jalap added to it), and occasional doses of citrate of ammonium and potassium, we may often find marked improvement. The next point to determine is the employment of digitalis, which may greatly aid in fortifying the condition of the cardiac muscle and in promoting the general arterial pressure. It is wisest to delay for a day or two the use of this drug, for it will thus often serve us better than if we proceed to give it during a cardiac storm.

There is a good indication for it in the rule of the old physicians, who resorted to it when the legs were dusky and bloated with a soft œdema. A feeble, irregular action of the heart, with a frequent, fluttering pulse, calls for the employment of digitalis. The diastole is prolonged, and the cardiac action becomes steady and regular under its influence. The only ill-effects known to me as induced by digitalis are nausea or vomiting, which sometimes occur. The so-called cumulative effects of the drug I have never witnessed. The tincture is the preparation most commonly used, and one seldom needs to exceed a dose of 10 or 12 minims, given three or four times in the day. Tincture of senega and ammonia may often be usefully combined with it. A free flow of urine and a general subsidence of dropsy not seldom occur under the action of digitalis. In many cases, not too far advanced in respect of cardiac muscular degeneration, the patient may be so much relieved as to resume some light occupation. In many more cases the respite is of short duration, and a

trifling exposure, or conflict with the duties of life, with too often a miserable environment, reinduce all the distressing troubles, and bring back the unhappy subject to our care.

Similar measures may again succeed, more or less, but there is progressive failure of power and less response to approved remedies. In this condition we may sometimes secure benefit from the following measures: restriction of fluids taken* (and this, indeed, may well be enjoined in all cases of cardiac dilatation with dropsy), the employment of mercury with digitalis and squill, given nightly in pill (2 grains of blue pill, and 1 each of powdered digitalis leaf and of squills), and the occasional application of two or three leeches to the epigastrium. Alcohol, in the form of brandy or gin, is useful, given in milk or in water to the extent of 2 or 3 ozs. in the twenty-four hours. Great relief is often secured by the use of the mercurial pill, maintained for some weeks. In particular, the hepatic engorgement is relieved; and with this, much of the nausea and gastric catarrh, which are constantly distressing, tend to disappear. Draughts of effervescing tartrate or citrate of sodium, with 3 or 4 minims of dilute hydrocyanic acid in each, are grateful and helpful.

Persistent dropsy not seldom requires relief from punctures on the outer side of the lower limbs, made with Southey's trocar, great cleanliness and antiseptic precautions being duly observed.

Dyspnoea and sleeplessness at night can be remarkably alleviated by hypodermic injections of morphia, and nothing contraindicates this measure. The dose need not exceed one-twelfth to one-eighth of a grain. Paraldehyde may also prove of service.

The bowels are best relieved by compound jalap powder in 30 to 60-grain doses, given in a little milk early in the morning; and a grateful diuretic drink is available in fresh

* The amount of fluids of all kinds taken in the course of twenty-four hours must vary according to the age of the patient and the season of the year. I commonly reduce the amount in an adult to 30 ozs., and a less quantity is seldom long tolerated; 35 ozs. is a maximum allowance, and 25 ozs. may be the quantity given to patients under twenty years of age. The results of a "dry" diet in cases of cardiac dilatation are generally very satisfactory, and sometimes appear quite remarkable.

lemonade to which bitartrate of potassium is to be added in the proportion of one teaspoonful to the pint.

The dietary should be nutritious and readily digestible. Tender mutton, meat, fowl, and fish, finely minced, animal broths in small quantity, milk, yolk of egg, custard pudding, and well-cooked fruit may be employed. Cocoa is often better than tea, and coffee is useful. Toast and rusks are the best bread-stuffs; and the most suitable vegetable foods are potato, well-mashed, and spinach. When gastric catarrh is present, milk and lime-water, or cold meat essences, are the only available articles of diet for the time being. Koumiss has proved useful in checking incoercible vomiting.

I am not disposed to claim a high place in many of these cases for some of the more modern cardiac tonics. Strophanthus is certainly of use sometimes when digitalis is ill-borne but it can never take rank with the old-fashioned remedy. Caffeine is certainly a valuable drug, 4 or 5 grains of the citrate acting as a cardiac stimulant and diuretic. It may be combined with strychnia. Of Convallaria I have small experience, but it may prove helpful when digitalis is not tolerated.

Without doubt, in the majority of cases of cardiac dilatation a careful and intelligent use of *trustworthy* preparations of digitalis affords us all we can reasonably expect. I lay some stress on procuring dependable preparations of the drug, whether in the form of tincture or powder, for I believe that, not seldom, inert or feeble preparations have to answer for unsatisfactory results. The cost is so small, and the supreme importance of having a trustworthy specimen to work with is so obvious, that I may be pardoned for directing attention to this point. I prefer the preparations named to digitaline.

In cases of cardiac dilatation in which aortic reflux is a factor, my rule is not to employ digitalis unless the patient is under hospital supervision. I fully recognise the value of the drug in remedying the atonic condition of the cardiac walls, but there is an ever-present risk of such a prolongation of the diastole as may, under trifling provocation, prove too much for the left ventricle to bear. In cases not under constant supervision, I think it better to rely upon strychnia, perhaps

in combination with arsenic, not omitting regulated doses of alcohol at proper intervals; and 'one of the latter is well employed in advanced cases just before the patient composes himself to sleep at night.

The occurrence of hæmoptysis in cases of the class I am discussing is either significant of pulmonary infarction, or of independent hæmorrhage into the parenchyma of the lung. Distressing dyspnœa is usually present, but the more copious the bleeding the greater the relief. No direct measures to check this are available, and the therapeutic indication does not lie in this direction. A fatal issue is common within a few days of such an attack, but it may be survived, and the hæmorrhage pass off, to return, perhaps, at a later date. I have tried in former years Trousseau's plan of giving full doses of ipecacuanha to act as an emetic, and so cut short the hæmorrhage. The drug did its work and the bleeding ceased, but I found no positive advantage from it. The cardiac lesion is usually mitral stenosis or dilatation, with tendency to stasis in the right chambers of the heart, and clot-formation leading on to pulmonary embolism.

The old term "pulmonary apoplexy" is rightly applied, I believe, in some of these cases, direct rupture of small vessels taking place without the intervention of pulmonary arterial thrombosis. I have certainly known instances where the most careful search for thrombi has been barren of results, and hæmoptysis, thus induced, is conceivably a less grave matter than that set up by infarctions.

The tendency to thrombosis is a late development, due probably to more than mere stasis, as a result of cardio-muscular weakness. There is evidence, as shown by the late Dr. Wooldridge, to show that lymph-stasis and auto-infection from this source has much to do with a tendency to clotting and the occurrence of thrombi, both in the lungs and in the veins in other parts of the body, which are not infrequent complications towards the close of life in cases such as we are considering.

I may refer, lastly, to the method of treatment recommended by Theodor Schott, of Nauheim, and urged in this country by Dr. Bezley Thorne, for cases of cardiac dilatation,

by means of baths and regulated exercises of the limbs and trunk. This plan can, I think, hardly find a place in the conduct of such cases as I have here described. With extreme care in the earlier stages of dilatation this plan may afford relief to some of the symptoms, but I should regard it as inadvisable in advanced cases, and especially where there was reason to suspect pericardial adhesion.

In this communication I have referred only to the gravest forms of cardiac dilatation, and have left out of consideration the many minor degrees of this condition met with in practice. Happily, many of these constitute recoverable conditions when duly recognised and prudently dealt with. Rest is absolutely necessary for some of these, as in anæmic and early post-rheumatic dilatation; regulated exercise is beneficial for others; but neither rest, nor exercise, nor baths suffice to meet all the requirements of these cases. Other measures are necessary if we are to apply the highest resources of medicine. Our remedies, be it always borne in mind, are for our patients, and not for diseases.

In respect of such cases as I have here dealt with, in spite of the many alleviations now rendered possible by the latest advances of our art, we have to declare that the motto affixed by Corvisart to his work on cardiac diseases is still but too apt—"hæret lateri letalis arundo."

A CLINICAL LECTURE ON THE FORMS OF CONJUNCTIVITIS, WITH SPECIAL REFERENCE TO THE TREATMENT OF OPHTHALMIA NEONATORUM.*

BY JOHN TWEEDY, F.R.C.S. ENG.,

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INFLAMMATION of the conjunctiva, like cataract and inflammation of the cornea, presents itself in such various phases that it is difficult to take a comprehensive survey unless we adopt

* Delivered in University College Hospital, Feb. 7th, 1895.

some logical method. In discussing, a fortnight ago, inflammation of the cornea, I employed a system of classification based partly on the anatomy of the cornea, partly upon its embryological descent, and partly upon its physiological and pathological relations and affinities. I shall follow a similar plan in considering inflammation of the conjunctiva.

We must remember that the conjunctiva is a mucous membrane, and is therefore liable to the same morbid changes as those to which the mucous membranes generally are liable. But the conjunctiva has certain special anatomical and histological properties which determine special forms of disease. For instance, we find in that portion of the conjunctiva which lines the lids, and is called the *tarsal conjunctiva*, there is a rich plexus of lymphadenoid tissue abounding in lymphoid elements. The presence of this lymphoid tissue determines one of the special forms of inflammation of the conjunctiva—namely, Trachoma or true granular lids, which has its primary “seat of election” in the tarsal conjunctiva. Then the portion of the conjunctiva that extends from the lid to the front of the eyeball, and is called the *conjunctiva of the fornix* or the lacunar portion, is thin, very loose, and contains many lymph-follicles. The presence of these lymph-follicles determines another special form of inflammation—namely, Follicular Conjunctivitis (best seen in the lower lid). Then, as the conjunctiva extends over the front of the eyeball, it is called *bulbar conjunctiva*, and covers the anterior part of the sclerotic and the cornea, forming, indeed, the epithelium of the cornea. As the conjunctiva approaches the cornea a gradual alteration takes place in the arrangement of the epithelium, and this, I believe, determines another special form of inflammation—namely, Phlyctenular Conjunctivitis. While the greater part of the conjunctiva is lined with columnar epithelium, the corneal epithelium is typically stratified and paved. The transition from the columnar to the stratified disposition takes place in the circumcorneal zone of the conjunctiva, which extends for about one-eighth of an inch from the corneal margin. A phlycten is a form of papulo-vesicle the anatomical requirement for which seems to be stratified epithelium.

Bearing these general and special anatomical and histological facts in mind, we may get a comprehensive and good working classification of the various forms of conjunctivitis. First we have inflammations affecting the whole extent of the conjunctival tract, and these may be divided into two classes—namely, (1) those which are accompanied by the ordinary products of inflammation, serum, muco-pus, and pus; and (2) those accompanied by special products, as croupous and diphtheritic exudations. The second group of conjunctivitis consists of localised inflammations, conditioned in a way already mentioned.

INFLAMMATION OF THE CONJUNCTIVA.

I. Affecting the whole surface of the membrane.

(A) With ordinary inflammatory products.

(a) Simple.

(b) Catarrhal—epidemic.

(c) Purulent—infective :—

(1) Ophthalmia neonatorum.

(2) Gonorrhoeal ophthalmia.

(3) Leucorrhoeal.

(B) With special inflammatory products.

(a) Membranous, pellicular or croupous.

(b) Pseudo-membranous or diphtheritic.

(c) Bullous or pemphigus of the conjunctiva.

II. Local inflammations, dependent upon special histological elements.

(a) The lids—Trachoma.

(b) The fornix—Follicular conjunctivitis.

(c) Circumcorneal :—

(1) Phlyctenula.

(2) Spring catarrh—phlyctenula pallida.

You know already the general morbid anatomy of an ordinary inflammation of a mucous membrane. Always there is enlargement of the vessels going to the inflamed tissue causing the inflammatory redness, with increased secretion of mucus, some infiltration into the membrane itself and the sub-mucous layers, more or less inflammatory exudation on the surface, mixed with epithelium, pus, and so-called "goblet cells." If the inflammation is more pronounced or due to more active poison, there is a large escape of leucocytes from the superficial vessels, giving rise to a purulent discharge. In a still higher degree of inflammation, or when the damage to

the tissues is greater, there is an extensive destruction of the epithelium, with more injury to the blood-vessels; an abundant exudation takes place on the surface, and the exudation coagulates into a greyish or yellowish membrane. This is pellicular or croupous conjunctivitis, and physically differs from the diphtheritic form in several ways. The croupous membrane lies on the surface, and can, as a rule, be readily wiped off with a rag or stripped off with forceps, exposing a red, easily-bleeding surface. In diphtheritic inflammation the epithelial cells seem to die without being shed, and a copious exudation takes place into the substance of the membrane and coagulates, so that there is not an exudative layer lying on the surface of the membrane, but a firm coagulated mass or pseudo-membrane in the substance of the tissue, which cannot be wiped or stripped off, but which may eventually be shed partly by disintegration and partly by formation of lines of demarcation in the healthy tissue. Pemphigus of the conjunctiva is so rare that it need only be mentioned here. The *localised* inflammations are determined by the special histological conditions, and not by any peculiar course or phase of the inflammatory process.

The classification just given presents the main types of inflammation of the conjunctiva, though not all the clinical varieties, nor the modes in which they present themselves, such as acute, subacute, and chronic.

As regards their course and effects, some forms of conjunctivitis are comparatively mild, some malignant. Diphtheritic ophthalmia is perhaps the most fatal to sight, but it is rare in this country; indeed, many persons even of large experience as surgeons state they have not seen a genuine case. Next in virulence and fatality as regards vision is Purulent Ophthalmia, which is more frequent, and may come under the observation of any medical man at any time. It is important, therefore, that all practitioners should be able not only to recognise it in its earlier stages, but also know how to promptly and efficiently treat it. This is especially so as regards Ophthalmia Neonatorum, which is one of the commonest causes of permanent blindness, and yet, if recognised in its early stages and properly treated, almost invariably

ends favourably. This may seem to be a strong statement, especially in view of the fact that ophthalmia neonatorum causes from 30 to 50 per cent. of the blindness in Europe. Though, for obvious reasons, I rarely see any but severe cases, I cannot recall a case of purulent ophthalmia in an infant that did not recover with sound eyes provided the corneæ were clear at the beginning of treatment and the treatment was diligently pursued. Others have, no doubt, had similar experience.

I propose, therefore, to describe briefly the treatment of this disease, though I have nothing new to say about it, no new procedure to propose, and no new medicament to suggest. It is a common disease, and is to be treated on a plan respecting which there is a general agreement.

Much may be done by way of *prevention*, especially in maternity hospitals and kindred institutions. Whenever there is the slightest suspicion of any infective character about the maternal discharges, preventive measures should be adopted immediately after the birth of the child. The out-sides of the eyelids should be gently and carefully washed with lint or clean rags moistened with plain and recently boiled water, and then a solution of nitrate of silver, 10 grains to the ounce, dropped on the lids over the palpebral fissure. After wiping the lids again with a piece of dry rag, the lids should be carefully separated, and a few drops of the nitrate solution, trickled well inside both lids, made to flow freely over the whole surface of the conjunctiva. If this be carefully and thoroughly done, few cases of ophthalmia neonatorum will occur.

If the disease does begin, the first sign of anything wrong is—two or three days after birth the eyes look weak and watery; there is increased secretion of tears and mucus, and the lids are glued after sleep. The margins of the lids become red and swollen, and the eyeball is bloodshot, and thin, yellowish serous fluid, not unlike bile, escapes from the conjunctival sac when the lids are opened. In a day or two the redness and swelling of the lids increase, the eye becomes very red, the bulbar and palpebral conjunctiva vascular and swollen, and the serous discharge is replaced by thicker

muco-pus, which soon becomes purulent. So that in a few days there is a copious discharge of thick yellow pus.

What is to be the treatment? This will depend somewhat upon the stage of the disease. In the earlier stages some authorities advise mild and simple measures, and are content to use weak lotions of perchloride of mercury, boric acid, or alum, or something of that kind, deeming it unnecessary and undesirable as yet to employ any very active measures. This is not my opinion, and is not in accord with my experience. The more I see of these cases, the more am I disposed to use vigorous measures as soon as there is reason to believe that the case is genuine purulent ophthalmia. From the beginning I should institute what is called the nitrate of silver treatment, though the solution used in the serous stage should, perhaps, be less strong than in the purulent stage—say 5 grains in the former and 10 grains to the ounce in the latter.

Some precautions are necessary to obtain full efficiency of the remedy, and care should be taken not to neutralise or decompose the nitrate of silver solution either by using a soiled brush or allowing plain water or so-called “antiseptics” to come in contact with it. A little of the solution should be poured into a small wide-mouth bottle or into a minim medicine measure; the brush should, before being used, be wiped on dry lint or rag, and only distilled water should be used to wash off the excess of the solution from the conjunctiva; otherwise the nitrate of silver may be decomposed and its potency destroyed.

Before applying the nitrate solution, all discharge should be gently removed from the outside of the lids and from the conjunctival sac by means of pledgets of lint or rag. The lids should then be thoroughly everted, so as to expose the swollen tarsal and lacunar portions of the conjunctiva; and then the exposed membrane should be painted with a camel-hair pencil well moistened in the nitrate solution; especial care being taken to make the application as far back as possible, because it is from this part that the pus is chiefly secreted. Most authorities recommend that any excess of the silver solution should be neutralised by means of a solution of

salt; but this is, I think, neither necessary nor desirable, as any spare solution may be usefully employed in destroying the virus lying in the deeper parts of the conjunctival sac.

The application may or may not have to be repeated in a day or two—I am speaking, remember, of the earliest stage only at present. One application may stop the disease short, or at least destroy its virulence. Meanwhile the nurse or attendant should employ some lotion, dropped inside the lids every two or three hours; and perhaps there is nothing better than either perchloride of mercury (1 in 5,000) or chloride of zinc, one or two grains to an ounce.

I may parenthetically remark that some surgeons use alum lotion; but though this is often very useful, it is not, I believe, always safe. I have seen several cases in which perforation of the cornea has been favoured by the use of alum. In all forms of conjunctivitis, and especially the more severe, the epithelium of the cornea is apt to become soft and eroded; and this event constitutes one of the great dangers in purulent ophthalmia. When there is erosion of the corneal epithelium, the solution of alum comes in contact with the corneal cement and dissolves it, thereby separating the corneal fibrillæ and favouring perforation of the cornea. There is another medicament which has lately come into vogue in purulent ophthalmia to which I think the same objection applies—namely, solutions of permanganate of potash. Solutions of permanganate of potash are sometimes employed by histologists to dissolve the corneal cement in making preparations of corneal fibrillæ; and though I cannot say I have actually seen any damage arise from the use of permanganate of potash, I believe the danger exists. Perchloride of mercury or chloride of zinc are quite as efficient, and they are not open to the same objections. If there be erosion of the corneal epithelium, the application of either of these medicaments causes coagulation of the albuminous material in the floor of the erosions, and thereby forms a limiting membrane. Nitrate of silver does the same.

If the disease has passed beyond the serous stage and has reached the *purulent stage*, the same line of treatment is to be employed only more assiduously. Instead of the 5-grain

solution of silver nitrate, a 10-grain solution should be employed. The lids are to be well everted, all the pus wiped away, the conjunctiva painted in the same way and with the same precautions as in the earlier stages. But one application will certainly not suffice now. It becomes a question, therefore, how often and when the applications should be repeated. This will depend very much upon the severity of the inflammation and the amount of pus. The usual course is somewhat as follows:—You make an application, and find for the first few hours there is a certain increase of irritation, but there is less pus and more serum. Then for some hours the eyes seem to be better, the amount of pus is less, the pain is less, and the general symptoms are much improved. There is a period of remission. A few hours later the case begins to relapse: the inflammation increases and the pus becomes more copious, and the pain and other symptoms return. The time for the reapplication of the nitrate of silver is, so far as you can determine, at the end of that stage of melioration and remission, or just at the beginning of the stage of recrudescence. It may therefore be necessary to repeat the application daily, or on every second day, or at longer intervals, according to the severity of the disease. In any case, as the disease improves the intervals may be lengthened and ultimately the applications discontinued; though it will be necessary to bathe the eyes with mild astringent and antiseptic lotions long after the indications for applying stronger nitrate of silver solutions have disappeared.

There is one other question—that is: What is to be done when corneal complications arise, when ulcers have formed, and the cornea is infiltrated and threatening to break down? Are you still to use nitrate of silver? Certainly; and, if possible, more vigorously than ever, because it is the inflammation of the conjunctiva and the infective character of the fluids which cause the damage to the cornea; hence you must combat the inflammation and lessen the virulence of the infective material. Nothing will accomplish the double purpose so well as applications of nitrate of silver solution. Indeed, it would be well to paint the ulcers of the cornea also. In my own practice, when the cornea is implicated I usually

substitute, for any other lotions which may have been used, solutions of sulphate of quinine (four grains to the ounce, made with the smallest quantity of dilute sulphuric acid that will keep the quinine well in solution). Quinine thus prepared is a powerful antiseptic, and, unlike most other antiseptics, it is also antiphlogistic. The quinine is, of course, only to be used in the intervals, and not as a substitute for the nitrate of silver; for nothing, I believe, can be relied upon to save the eyes in purulent ophthalmia, whether in infants or adults, except the intelligent, determined and systematic use of the nitrate of silver treatment.

THE OLD AND NEW IN THERAPEUTICS.

BY W. R. GOWERS, M.D., F.R.S.,

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WHEN memory fails because the "process of the years," or the earlier decay they sometimes bring, reveals the gradually descending plane of life, it is commonly found that, as Ribot well expresses it, "the new perishes, the old endures." But memory is not the only subject to which the statement applies; nor is failure of power the only condition in which the truth is manifest. On many sides, in many things, can perceive that the old becomes older and the new secures no survival. Under many circumstances, it is true, the law is subject to conspicuous exceptions; but—does not the assertion come home with peculiar force to those who study therapeutics with an earnest eye—especially to those who have been able to watch many a lauded novelty pass from its first brightness (the light thrown on it from some mental lamp and concentrated with skill) through dimness into oblivion? Sometimes, moreover, it reappears, in form but slightly altered, when the influence which produced it before acts on a new generation, full of new energy, looking at that which is and for that which is to be too earnestly to cast a backward glance on that which has been.

It must be so. The "glory of going on and still to be" permits no looking back. Half unconsciously there is a feeling

that the past might hinder the hoped-for progress. There was once a woman who looked back, and—became soluble in the first shower. A waste of labour and of effort is involved in the rediscovery of error and even of truth, but the truth found out afresh has a new life, and now and then the widening circles bring the worker to a place at which he escapes that which has wrecked his unknown predecessor. One real success is worth many a failure, alike to him who works and to those who are worked for.

It would be interesting—but it would not be wise—to collect the therapeutic measures which have before been tried and failed. It would not be wise, because it would damp the ardour to which we owe so much—indeed, to which we owe almost all that which is precious in the gifts that each generation leaves to its successor. It would not be wise, moreover, because, as already hinted, new knowledge enables the old to be tried under new conditions, or with some slight differences, which now and then involve success instead of failure.

But, after all, no one can observe the progress of therapeutics during some twenty years and not be struck with the way in which the old endures. Note how many practical measures which our forefathers believed in are holding their own, and more. Advancing knowledge gives rational support to that which before was guesswork confirmed by experience. Often, indeed, it was not guesswork, but the residuum of result from the unnumbered trials of many preceding generations, going on, perhaps, through centuries, in which the “misses” were doubtless more than we can conceive, but the “hits” slowly gathered themselves together into definite power.

The knowledge we have gained cannot always be accounted a confirmation of practice before adopted, even when it seems to be so. To consider one or two instances. It may not be so in this case. It is of curious interest that we should have learned from our predecessors that it is well to give chloride of ammonium in pneumonia. I do not know that any definite evidence has been obtained of its service. The disease is one of those acute maladies which baffle the most determined attempt to discern the influence of treatment. Yet the disappearance of the chlorides from

the urine, which, of course, means their great diminution in the blood, affords a rational justification for the administration of the chloride. It would suggest it, had it not long ago been adopted for reasons which are now unknown. To take another instance. *Digitalis* does not do great good in epilepsy. Yet fits will sometimes cease when it is added to the dose of bromide, which before permitted their continuance. *Digitalis* was a popular remedy for the "falling sickness" in the West of England two hundred years ago, a fact which has been adduced by one writer as an example of the absurdity of our forefathers' practical therapeutics.

In the strange nostrums of the old "dispensatories," with their most miscellaneous combination of agents, it is quite possible there lurked some virtues unsuspected now. The very grotesqueness of the constituents, and the vagaries of the combinations recommended, deter from any systematic attempt to discern if it be so. So also do the theories built sometimes on definite facts. The theories may even induce a prejudice against that which it may be thought cannot do good, if the reasons for its administration are so absurd. But theories were made to fit facts of old, as they are now, and a theory may only be an indication that a fact of definite firmness is beneath it. The value of valerian and asafoetida in hysteria is certainly independent of their taste; but who would now venture to prescribe them if the only ground for doing so was the belief that by their unpleasant flavour they drove the errant womb back to its normal situation, and so relieved the disturbance of the organs to which it had mischievously wandered?

It is quite conceivable that the use of mercury in syphilis was derived from its effect on inflammation, and this from the observed phenomenon of salivation, suggestive as it may have been of the removal of injurious matter from the system.

But the discernment of the value of iodide of potassium in syphilis can scarcely have had even the semblance of a rational basis. It is noteworthy that the early use of mercury for inflammation became so specialised on syphilis that it required a generation for physicians to regain a perception of its wider service—a perception which, however, surgeons never wholly

lost, and ophthalmic surgeons, who can best watch the action, never wavered in. But in the case of iodide an opposite mental process led to its employment in a vast number of maladies, in many of which its use still survives, but in which, for the most part, not one tittle of evidence has ever been afforded of definite influence.*

Other considerations regarding the ever-changing tides of practice, which, for all their ebbing, do advance, may occupy a few pages in another number.

ON THE DIMINUTION OF FRICTION IN THE PRACTICE OF EXTENSION.

BY STANLEY BOYD, B.S. LOND., F.R.C.S.,

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THE following notes were suggested by Mr. Howard Marsh's paper in the January number of the *Practitioner*, in which he described and illustrated most admirably a case of supra-condyloid fracture of the femur with flexion of the lower fragment—practically one of the most difficult fractures to deal with.

I have lately had under my care in the Charing Cross Hospital a case which, though not a typical supra-condyloid fracture, yet presented most of the peculiarities of this injury. But my chief reason for reporting the case is to draw attention to the advantage of diminishing friction in the apparatus employed for continuous extension.

The patient was an alcoholic man of about fifty, over whose left thigh the hind wheel of a 'bus was said to have passed ; but there was never any bruising such as might have been expected after such an injury. A fracture started about an inch above the patella on the outer anterior aspect, and ended

* Its service in a few is not denied. But Nothnagel says that—while not recognising the wisdom of the injunction, "when you do not know where or why disease is, or whence it comes, give iodide"—he has given iodide of potassium very largely, and, except in syphilis, in affections of lymphatic glands and of the thyroid, he has never perceived sure grounds for ascribing to it recovery or improvement.—"Arzneimittellehre," 3rd ed., p. 278.

about four inches higher up, where the upper end of the lower fragment formed a projection on the back of the thigh. This fragment was flexed upon the tibia, chiefly, I believe, by the weight of the upper fragment resting upon it, partly, perhaps, by the gastrocnemius. The upper fragment had probably pierced the deeper portions of the quadriceps, and two inches of shortening developed rapidly. The double inclined plane with weight extension in the line of the femur failed to make any impression on either the shortening or flexion of the lower fragment. The limb was then placed upon a MacIntyre's

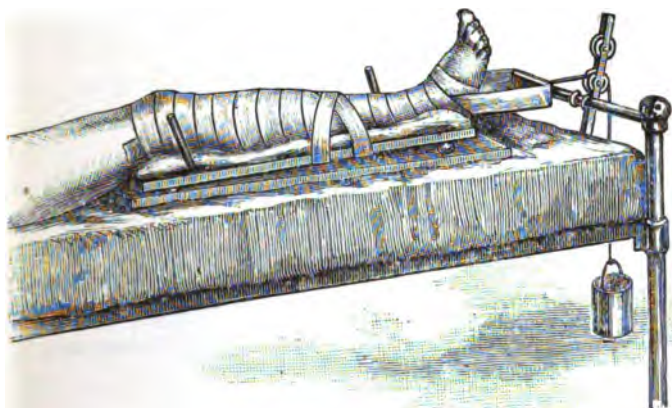


FIG. 1.

splint bent to an acute angle at the knee; the hip was bent to a right angle, and vertical extension (18 to 20 lbs.) was made from the splint to a tripod over the bed. Flexion was got rid of, but shortening remained unaltered. Perhaps a heavier weight might have been more successful, for the weight of the lower limb beyond the fracture *plus* that of an iron MacIntyre is so considerable that little of the 20 lbs. can have remained over to effect traction; but this weight, aided by an imperfectly fitting splint, caused some small pressure sores. On theoretical grounds, I had always expected to obtain a good result in cases of supra-condyloid fracture with typical deformity from vertical extension, with the knee acutely flexed; and, though I was disappointed by my lack of success in the present case, I think the plan might still prove valuable with

a light posterior gutter-splint instead of an ill-fitting MacIntyre. Each of the above methods was tried for some days before it was abandoned as a failure.

When vertical extension was given up and the limb laid flat, projection of the lower fragment in the loin again became evident. As time was now getting precious, the tendo Achillis was divided to get rid of the possible effect of the calf muscles, and extension was made in the line of the limb by means of a strapping stirrup reaching *well on to the thigh*. But before applying this—the patient being under chloroform—strong extension and counter-extension (previously ineffectual) were made upon the limb, and the shortening reduced to

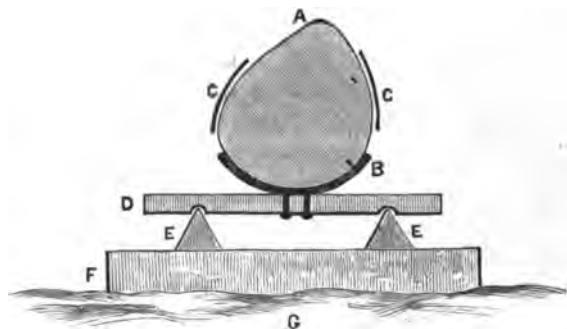


FIG. 2.

A, Section of Leg on Gutter Splint. B, C, Extension Strapping. D, Transverse Lath riveted together. E, Knife-edge. F, Base-block. G, Bed.

one inch. The leg was then laid, with the toes pointing up and out at about 50° , on a well-padded piece of board running on two pairs of castors (Fig. 1), of which the lower pair were twice as long as the upper; the castors rested on a wooden tray placed on the mattress. Holes were bored through the edges of the running board for pegs, which converted the board into a cradle, in which the limb was easily fixed in any position of rotation. A weight of 14 lbs. was now attached to the stirrup. The shortening was quickly reduced, and none could be detected six weeks after the accident, when the patient was put up in waterglass and lateral tins, sufficient union having occurred to render the recurrence of shortening unlikely. Three months after the accident, the patient having for some

time been bearing a little weight upon the injured limb, the splint was removed, union was found quite firm, there was not more than a quarter of an inch shortening, and the toes pointed out equally upon the two sides.

I have often found the above-described running cradle and tray useful, but never more so than in the above case. It reduces friction greatly, and, proportionately, the weight necessary to effect extension; consequently it adds a good deal to the patient's comfort. It has the further advantage that anyone can make it.

Another simple contrivance to the same end is Volkmann's sliding foot-rest (Fig. 2). Two triangular wooden bars are attached, six to nine inches apart, by their bases to two transversely running square bars, thick enough to raise the longitudinal "knife edges" well above the mattress. The limb must be placed in a Hodgen's cradle, or on some kind of posterior splint to which a transverse bar of wood has been attached. This bar rests upon the longitudinal "knife edges," and extension is made from the limb as usual. Obviously friction will be very slight.

I am inclined to think that some such apparatus as the above should be employed in every case in which treatment by extension is tried.

MEDICAL AND SANITARY AFFAIRS IN EGYPT.

BY GREENE PASHA,

Surgeon-Lieut.-Colonel, Army Medical Staff (retired); late Director-General Egyptian Sanitary Department.

II.

DISPENSARIES.

EGYPT is divided into fourteen provinces, locally called *mudiriyehs*, six occupying the Delta, five the comparatively wide stretch of riparian country between Cairo and Assiout, while the remaining three may be said to consist of long-drawn-out ribbons of cultivable land on either side of the Nile, extending from the last-named town to the second Cataract, a distance of more than four hundred miles. Each province is subdivided into districts, or *kisams*, varying

numerically from three in Esneh, the most southern region, to eight or nine in Gharbieh, which constitutes the Deltaic heart; and in every provincial chief town (save two, Benha and Guizeh, both adjoining Cairo) the Government maintains a small hospital, where the out-patient department flourishes or fades in proportion to the zeal or apathy of the medical officer in charge.

Elsewhere, although *officiers de santé*, or medical officers of health, have long been resident in every kism, the rural population used formerly to be entirely destitute of skilled, or pharmaceutically equipped, medical aid, and depended for treatment, in cases of sickness or injury, on the rule-of-thumb ministrations of a pair of functionaries known as the village barber and midwife. The Egyptians invariably inhabit congeries of mud huts that are heaped together promiscuously, on elevated sites when possible, in order to economise land for cultivation; and in each of these human ant-heaps, as it were, small or great, two or more illiterate practitioners are always to be found exercising the healing art in accordance with their lights, which, sooth to say, are far from brilliant. The methods in vogue have never been thoroughly studied or described, but, generally speaking, they may be said to resemble those that obtained in Europe during the dark ages: a species of degenerate mediævalism, with a predominating trust in the efficacy of charms. When we reflect that none of the women can read or write, that not more than 2 per cent. of the men have even a smattering of these accomplishments, and that the sole source of information open to these poor people is consequently confined to folkrede, the wonder is that useful knowledge of any kind should have survived among them.

Barbers and midwives, although unsalaried, are, to a certain extent, Government servants, inasmuch as they owe their position to the sanitary authority of the mudiriyeh, by whom they are nominated chiefly with a view to the collection of vital statistics. In this essential task they are supposed to receive clerical assistance from the *sarrafs*, or tax-gatherers, of the district, a body of officials belonging to the Finance department, and consequently taking no interest in the work

of registration, which they slur over in the most perfunctory manner at odd moments when not occupied by their more legitimate duties. I shall have something to say on this subject later on, in connection with the absence of a census, so will add no more at present.

The midwife's principal obligation is to attend all labours in her village; and her colleague, the barber, who is also generally her husband, is mostly employed as circumciser and vaccinator to the little community. Rogers Pasha tells us that "arrangements have been made during the past year for a systematic course of instruction in Government hospitals for these sanitary agents (barbers and midwives), and for their examination at the end of the course"; but, on reference to previous annual reports, I find that the system was established in 1886, as will appear from the following table:—

Years.	Total Number.		Number Examined.			
			With success.		Rejected.	
	B	M	B	M	B	M
1887*	2,444	4,612	75	24	4	...
1888†	2,856	5,498	910	1,357	44	9
1889	2,520	4,780	745	868	156	243
1890	2,632	4,702	936	1,384	135	125
1891	No Report published.					
1892	No information.					
1893	2,665	4,761	344	310	53	112

In order to inaugurate a remedy for the unsatisfactory state of things depicted above, an attempt was made towards the end of 1887 to establish dispensaries where skilled medical aid would be available; and, before the end of the year, eight of these establishments were opened in some of the secondary provincial towns. As a special concession, the financial authorities gave the Sanitary Department the right to spend its earnings; and it was hoped that, by means of the sums thus accruing, it would be possible to develop the system until there would eventually be "a self-supporting dispensary in every

* Gharbieh not included.

† Numbers estimated in several provinces

considerable town in Egypt." The main difficulty was to find men suitable for the posts. As in France, medicine and pharmacy were supposed to be totally distinct professions; and, with the arrogance of imperfect knowledge, the young Cairo graduates affected to look with scorn upon what they called the degradation of dispensing their own prescriptions.

I find, from Rogers Pasha's report, that in 1893 the number of dispensaries had increased to eighteen, including two opened during the year; but the Director-General evidently does not regard them with much favour as at present constituted. "The Dispensaries of the Country still continue to be worked at a loss," is his opening remark; and further on he adds: "The failure of the Dispensaries, from a financial point of view, is no doubt largely due to the indifference displayed in most cases by the Government Doctors in charge to the success or failure of the undertaking, combined with the ignorance, as regards the value of medical treatment, which apparently characterises the population, as well as a want of confidence in the Medical Officers. . . . It is an undoubted fact that in Egypt, as elsewhere, the confidence of the public in a doctor is in proportion to the capacity shown by him in his profession; and it is only by raising the standard of his knowledge that the Egyptian Government Medical Officer will take his proper place in the estimation of his countrymen."

There can be no doubt that Rogers Pasha has accurately gauged the cause of failure. Elsewhere he pertinently observes: "The out-patient Departments of the larger Hospitals . . . continue to increase steadily, and in the provincial Hospitals the number of admissions is increasing; but it must be remembered that the best professional men are chosen for Hospital work, and a higher professional standard amongst the rank and file of the Department may in the future lead to the people appreciating the Government Dispensaries at what should be their true value."

SANITARY ENGINEERING.

It is with great satisfaction that I find a laudatory account of this important section in Rogers Pasha's report. Until

the services of the present head of the branch were procured in 1886 it may safely be said that there was no one in Egypt who, by reason of training or experience, was competent to deal with questions of sanitary engineering in a practical manner. House conservancy was utterly neglected, even in the most pretentious buildings that, as far as external appearance went, were veritable palaces. What are popularly known as sanitary arrangements were of the vilest description: water-closets, where such existed, were so many death-traps; and the consequence was a most lamentable mortality from typhoid fever and other filth diseases. The hotels in particular were in a terribly insanitary state; and the flats and apartments where European visitors congregated were equally insalubrious. The preventable-disease death-roll of the first five years after the English army occupied the country in 1882 will not readily be forgotten. When we think of the comparatively small strength of the British community at the time the mortality becomes nothing short of appalling; and, without any manner of doubt, if the same proportions had been maintained, Egypt would not now be the popular health resort it is.

The house I occupied in Cairo was the first that was rendered habitable, from a hygienic point of view, under Mr. Price's auspices. The wife of a prominent English official had died there not long before, and truly, when the sanitary defects were brought to light, the only wonder was that any of the inmates had escaped with their lives. It would take too long to enter into particulars regarding the abominations that were disclosed. Suffice it to say that had the builder meant to pollute roof, walls, floors, and subsoil he could not have adopted measures better calculated to carry out his object.

A good deal of this has been changed, thanks to example and precept, and, as far as houses frequented by English people are concerned, the sanitary arrangements in Cairo, and other favourite sojourning places, are now so good that no medical man need be afraid of recommending suitable patients to winter in Egypt. Of course, the rendering wholesome is only local—a drop in the ocean, so to speak—the vast majority of native dwellings remaining *in statu quo*; but even so, the

partial amelioration has been followed by a wonderful improvement with regard to infectious morbidity. We seldom or never hear now of cases of typhoid fever or dysentery being acquired by visitors for the first time in Egypt, whereas both these diseases used formerly to be of frequent occurrence. Young soldiers still suffer inordinately, I believe, but if they do, I feel quite certain that they pick up the infection in the specially filthy bazaars they unfortunately are allowed to frequent for various purposes, one of the most dangerous being the consumption of locally-manufactured aerated waters.

Here are some of the Director-General's remarks on the progress of sanitary engineering :—"The Department is steadily increasing its sphere of usefulness, and Price Bey and his Assistant, Mr. Burton, have been kept so fully employed that it was impossible for either of them to obtain leave during the year.

"In connection with other questions submitted Price Bey reports as follows :—"During the past year seventy-four questions or plans bearing upon sanitary questions were submitted officially by the Public Works Department for approval, or to be reported on. Of this number, seventeen were approved as received, the remainder modified or altered before being approved by the Sanitary Administration; but as the latter had no power either to inspect the work during progress or on completion, there was no means of ascertaining if their recommendations had been properly carried out.' I am happy to say that an arrangement has subsequently been arrived at which places such questions on a much more satisfactory footing, and, with the cordial co-operation which now exists between the Sanitary Department and the Public Works Department on questions of Sanitary Engineering, such complaints will be impossible in the future."

This assurance is most satisfactory. Formerly a great deal of friction prevailed, chiefly, I believe, because the *Tanzim* was officered by Europeans who were not Englishmen. It is to be hoped that the "arrangements" alluded to by Rogers Pasha have a documentary foundation, so that possible alteration in the *personnel* may not conduce to relapse. That all

is not as yet plain sailing between the two Departments is clear from the subjoined extract :—

“As long as there is no building law, and the control of the Tanzim Department of the Public Works Department is limited to questions of ‘Alignement,’ so long will sanitary crimes go unpunished, with the inevitable result of depreciation of the standard of health in all large towns, and a gradually increasing pollution of the soil which must lead, in a country like Egypt, to a higher death-rate from preventable disease.”

In concluding his observations on the working of this section, the Director-General says :—“The Sanitary Engineering Department is proving of such public utility that, if anything, an increase in the personnel is desirable, viewing the daily increasing amount of work referred to the Department.” Reading between the lines, it is evident that adverse influences are at work *as usual*; but I am quite sure that Rogers Pasha is strong enough to confound them.

MOSQUES.

One of the most important sanitary questions in Egypt is connected with the innumerable mosques that are to be met with in all directions. It is a fundamental law in the Mahomedan religion that, ere he prays, the true believer is bound to divest himself of all bodily filth, internal as well as external; and hence the addition of latrines and ablution places, in the form of annexes, to the more sacred part of each edifice devoted to the Moslem cult. Three-fourths of the whole male population daily resort to their mosque for the purposes of Nature, and the result is the creation of a focus of filthy, evil-smelling infection to which no words could do adequate justice. In the annual report for 1887 the following observations occur over Mr. Price’s signature :—“Mosques.—The great number and religious character of these buildings makes it costly and somewhat difficult to place them in a satisfactory sanitary condition. . . . A number of plans have been submitted to the Administration during the year showing slight improvement, but . . . as no notice is sent on the completion or during the construction of the work, there is no means of knowing

- whether their recommendations, have been adopted." In the report for 1888 he says:—"During the year the Wakfs Administration improved the sanitary condition of the mosques in a few isolated cases, but extensive works are necessary before they could be pronounced to be in a satisfactory condition."

Rogers Pasha, in the report under consideration, conveys the following very satisfactory piece of intelligence for hygienists:—"£E2,500 . . . is bound to be devoted to the carrying out of the Mosque Decree, a similar amount being found by the Wakfs Administration. The Decree having come into force in November, 1892, work was commenced in January, 1893, and during the year under review thirty-one mosques . . . have been put in a satisfactory sanitary condition, and the work will be continued until all the towns to which the Decree applies have been dealt with."

It would be hard to exaggerate the importance of a measure leading to such excellent results. In the interests of visitors to Egypt the cleansing of the mosques cannot be carried out too soon. Many of these buildings are interesting, either æsthetically or historically, and some are constantly crowded during the season by enthusiastic artists who brave the effluvia for the sake of the beauty of the theme. In my own experience I have met with numerous cases of disease thus acquired, more than one ending fatally, and tourists, especially the young and susceptible, cannot be too sparing of their visits to such pestilential spots.

Rogers Pasha's observations are not, unfortunately, all *couleur de rose*. "I wish the same could be said of the proprietors of Private Mosques, who have shown in almost every case an absolute indifference to carrying out the provisions of the Decree, relying on the fact that three years is given to complete the work. Up to date only three private mosques have been dealt with."

It is comforting to reflect that the greater part of the three years has now lapsed. I sincerely hope that, when the days of grace are past, all recalcitrant owners of private mosques, from which they mostly derive large revenues, will be sternly and uncompromisingly dealt with.

Comparative Studies.

I.—ANTISEPTIC METHODS IN MIDWIFERY.

THE greatest advance in medical science that this century has seen is the introduction and scientific application of the antiseptic method to surgical and obstetrical practice. It is now almost universally admitted that puerperal fever is an infective disease, and that the infecting agent is a microbe which gains entry into the blood or tissues in the great majority of, if not in all, cases through some part of the genital tract, and that unless such a microbe be introduced puerperal fever will not occur. The knowledge that these microbes are introduced from without, generally by the hands or instruments of the attendants, and that they are capable of being destroyed by certain chemical substances, has led to the development of the modern system of antiseptic midwifery. Tarnier, in his work "*De l'Asepsie et de l'Antisepsie en Obstétrique*," says:—"In the country as in the town, in the most magnificent palace as in the humblest cottage, the enemy of the lying-in woman is the microbe; it is it which we must prevent from entering the passages of the patient, and must destroy when it does so enter. The collection of methods employed to attain to this double object constitutes obstetrical antisepsis." The truth of the belief that the microbes causing puerperal fever can be destroyed and rendered powerless to do evil by the proper use of suitable antiseptic materials has been fully demonstrated by the experience of all lying-in hospitals. These institutions for years were infested with puerperal fever, and at times the mortality from this cause was so enormous as to excite grave doubts as to whether it was justifiable or not to maintain hospitals of this kind. In "*Notes on Lying-in Institutions*" by Florence Nightingale, published in 1871, the death-rate was still so high that she says:—"Unless, then, it can be clearly shown that these enormous death-rates can be abated, or that they are altogether inevitable, does not the whole evidence with regard to special lying-in hospitals lead but to one conclusion—

viz., that they should be closed? Is there any conceivable amount of privation which would warrant such a step as bringing together a constant number of puerperal women into the same room, in buildings constructed and managed on the principles embodied in existing lying-in institutions?" And yet from these same buildings at the present day, by rigid attention to all the details of the antiseptic method, puerperal fever has almost disappeared. It is easy to understand that the collection of cases under one roof without antiseptic precautions, and often without much attention to ventilation and general sanitary arrangements, led to outbreaks of puerperal fever, and to a mortality largely in excess of that which existed among women delivered in their own homes. The power that antiseptics have in controlling this disease has now so emboldened us as to suggest the possibility of again establishing with safety lying-in wards in all general hospitals possessing medical schools, so that at last an opportunity may be given of teaching midwifery practically as well as theoretically. To Semmelweis probably more than to any other man we owe the first systematic introduction of the antiseptic method into midwifery practice, and though he was not fully aware of the exact nature of the contagion, he proved that the disease could be, and was, conveyed by hands soiled with decomposing animal matter, and that only by thorough washing and immersion in disinfectant solutions could the hands be rendered safe. The disinfectant he used was a solution of chlorine or chlorinated lime-water; and though now other chemical substances are used in preference, yet the principle which he enunciated remains, and will remain, true for all time. Though our present knowledge teaches us that of all preventable diseases puerperal fever is the most preventable, yet it is a remarkable and significant fact that, according to the Registrar-General's returns, there is not only no diminution but an actual increase in the proportion of deaths per 1,000 births from this disease within recent years. Thus during the ten years from 1861 to 1870 inclusive the average mortality per 1,000 births from puerperal fever was 1.58, while from 1871 to 1890 the average mortality from the

same cause was 2·59. And this has occurred whilst within our lying-in hospitals, thanks to the use of antiseptics, the mortality from the disease has been reduced almost to zero. It is possible that the increased mortality, as judged from the Registrar-General's report, may be due in part to a better and more accurate system of registration; but there is every reason to believe that even now the figures are rather under than over the mark, especially as the disease is coming more and more to be looked on as the expression of failure on the part of the doctor or midwife, and a confession that something which ought to have been done was left undone or slurred over. The inevitable assumption is that the use of antiseptics in midwifery practice, outside our lying-in hospitals, is in some cases either entirely neglected, or else very imperfectly carried out. A full and complete realisation of the fact that puerperal fever is a hand-borne and not an air-borne disease is of the first importance. For the complete banishment of puerperal fever from our hospitals and our private practice it is necessary that a definite and adequate plan of action be laid down, and that this plan shall be intelligently carried out by all persons brought in contact with the lying-in woman. Everyone practising midwifery should have some such set of rules, and should maintain over himself or herself the strictest watch that none of them be broken. In order to determine what this plan shall be, it will be well to review the antiseptic methods employed in certain lying-in hospitals and those recommended by leading authorities. At Queen Charlotte's Lying-in Hospital, London, the following measures are adopted:—

The patient on admission to the hospital, before entering the labour ward, is washed from head to foot and clothed in garments provided for the purpose.

On entering the labour ward, before any vaginal examination is made, the vulva and surrounding parts are thoroughly washed with soap and hot water, and the soap having been removed with plenty of water, the vagina and vulva are irrigated with a solution of perchloride of mercury 1 in 2,000.

The importance of keeping the hands clean and free from scratches and the nails short is pointed out. Before any

examination is made, any rings worn are to be removed and the hands well washed with soap and water and scrubbed with a nail-brush. The hands are then immersed for not less than one minute in a solution of perchloride 1 in 1,000. As a lubricant, vaseline and perchloride 1 in 1,000 is used, and the jar containing it is kept permanently immersed in a basin of 1 in 1,000 perchloride solution.

When delivery is completed, a warm vaginal douche of 1 in 2,000 is given to all patients.

Forceps and other instruments before being used are boiled in water in a vessel resembling a fish-kettle in shape.

The solution of perchloride of mercury is made from ordinary tap-water, and no acid or other substance is added except some colouring material.

At the General Lying-in Hospital, London, where the antiseptic methods adopted have met with so large a measure of success, the rules are much the same as those above mentioned. The vulva is cleansed and a vaginal douche is given before and after delivery.

The lubricant employed consists of glycerine and perchloride 1 in 1,000.

A small quantity of hydrochloric acid is added to the mercurial solution.

At St. Mary's Hospital and Manchester and Salford Lying-in Institution * the methods are as follows:—

The nurses are taught to thoroughly cleanse the hands with soap and water and turpentine, and then to soak them in a solution of perchloride of mercury 1 in 1,000 for five minutes.

The vulva is always cleansed with soap and water, and then with the mercurial solution 1 in 1,000; but a vaginal douche is only given before labour in cases where there is evidence of septic discharge, as, for example, in cases where there is profuse leucorrhœa or evidence of vulvitis. It is, however, given in cases where operative measures are to be undertaken.

The lubricant used is glycerine and perchloride, 1 grain to the ounce.

* For these particulars we are indebted to Dr. Donald, Surgeon to the Hospital.

After delivery a douche of perchloride of mercury 1 in 6,000 is given in all cases.

At the Rotunda Hospital, Dublin,* the following plan is adopted:—

The vulva of every patient is washed with soap, and then with lysol solution, at the commencement of labour. It is believed that this hardens the tissues less than corrosive sublimate.

A vaginal douche is not given either before, during or after labour in uncomplicated cases, nor during the puerperium.

Four vaginal examinations are all that are allowed during the entire course of a normal labour.

The hands are carefully scrubbed with soap and water and a nail-brush, and the latter is kept constantly immersed in a creolin solution, and, as an additional precaution, is boiled once a week. All soap having been washed off, the hands are soaked and scrubbed with a special brush for one minute in a solution of perchloride of mercury 1 in 500, to which some tartaric acid has been added.

The hands are not dried before examining, and no lubricant is used under ordinary circumstances. If, however, the hand has to be passed into the vagina, then soap is the lubricant preferred. Carbolic soap is usually employed, but no stress is laid on this, as ordinary soap, when once its surface is melted off by hot water, may be regarded as an aseptic substance.

Before obstetrical operations the vulva is scrubbed with sterilised tow, soap, and creolin solution 2 per cent. The vagina is scrubbed out in the same way with soap and the 2 per cent. creolin solution.

Prof. Tarnier, late Surgeon to the Maternity at Paris, recommends the following plan:—

The hands are washed and scrubbed with a nail-brush in a solution of 1 in 4,000 perchloride of mercury, soap being used. The depression around the nails is cleansed with a wet cloth, and the hands are then washed in alcohol, and are then steeped in a perchloride solution. The advantage of washing the hands in alcohol is that by this means the fatty substances

* For these particulars we are indebted to Dr. E. H. Tweedy, Assistant Master.

are removed from the skin, and so the antiseptic has a better chance of penetrating.

A vaginal douche of perchloride of mercury is always given before and after delivery, and the greatest care is exercised in cleansing the vulva.

At the termination of labour an intra-uterine douche of iodine and water is given in all cases, the following formula being the one employed :—

℞ Tinct. Iodi. ʒi.
Potassii Iodidi ʒiiss.
Aq. Destill. Oij.
Ft. lotio.

Instruments are sterilised in a specially devised dry-heat steriliser.

The following solution, known as Van Swieten's fluid, is the preparation of mercury which is employed :—

℞ Hydrarg. Perchlor. 1 part.
Alcohol 100 parts.
Aq. Destill. 900 parts.
Misce et ft. lotio.

This lotion is diluted with four times its bulk of water before use, so that the strength then becomes 1 in 5,000. He believes that this is less toxic than mercurial solutions made with tartaric acid.

Prof. Winckel, of Munich, recommends the following :—

The genitals should be washed with a 3 per cent. solution of carbolic acid and then dried with salicylated cotton-wool.

He considers that vaginal injections before delivery are not necessary in all cases, but when given carbolic lotion of the strength mentioned above should be used.

The hands and arms after washing should be soaked either in a 3 per cent. solution of carbolic acid or a solution of perchloride of mercury 1 in 1,000.

It will be observed that the methods described above admit of being divided broadly into (1) methods for disinfection of hands and instruments, and (2) methods for disinfection of the patient. It is universally acknowledged that the preliminary and most essential step is to thoroughly cleanse the hands with hot water, soap, and a nail-brush, and

after this has been done, the hands are then immersed in an antiseptic solution for at least a minute, this immersion being repeated before every subsequent examination of the patient. It is difficult to enforce an immersion of longer than a minute. The most widely used of the modern chemical antiseptics is perchloride of mercury, and for the hands nothing better can be desired. It is a powerful germicide: it is portable and it is cheap. A solution of from 1 in 1,000 to 1 in 2,000 is commonly employed, although Tarnier and Vignal have shown that the streptococcus is destroyed as easily by a solution containing 1 in 5,000 as by one containing 1 in 1,000. If mixed with ordinary tap-water the lime salts which are present in solution react upon the perchloride of mercury, and some of it is thrown down as an insoluble oxide, so that if no precautions are taken to prevent this a certain amount of the perchloride is lost. If, however, a solution of the proportion of 1 in 2,000 be used the amount of perchloride precipitated by the lime salts in the water will probably not be sufficient to seriously interfere with its efficiency as a germicide, always supposing that the solution is freshly made. To prevent the partial decomposition of the perchloride distilled water has been used, or, failing this, various substances have been added which counteract the effect of the lime salts and render the solution of perchloride stable. A solution of perchloride of mercury in distilled water could hardly be employed except at a lying-in hospital, and even there it would involve considerable trouble and expense, so that the other plan of rendering the solution stable by the addition of certain chemical substances to the water is more generally used. Of these substances tartaric acid or chloride of sodium are the most convenient, the amount added being double that of the perchloride. In hospital practice it is customary to have a concentrated acidified solution of the strength of 1 in 200 made; but for use in private practice powders having the following formula may be carried:—

R Pulv. Hydrarg. Perchlor.	. . . . .	qrs. x.
Pulv. Acidi. Tartarici	. . . . .	qrs. xx.
Cochineal	. . . . .	qr. i.
Met. ft. Pulv.		

One of the powders added to a quart of water makes a solution of 1 in 2,000. Chloride of sodium may be substituted for tartaric acid, and tabloids containing chloride of sodium and perchloride of mercury are now sold, and are very easily carried. The addition of some colouring matter is advisable, as the solution has neither taste nor smell. It must be remembered that a solution thus prepared is rendered inactive by admixture with soap or any albuminous material; so that the hands, if soiled with blood or other discharges, should be thoroughly wiped before being plunged into the mercurial solution. If, however, care be taken, a solution prepared at the commencement of labour will last until the termination of it. The chief advantages which perchloride of mercury possesses over carbolic acid as a disinfectant for the hands is its greater portability and greater cheapness. There are numerous other antiseptics which are used for the hands, but of these it is unnecessary to speak, because none are so simple, so easily managed, and so effective as perchloride of mercury. To disinfect the forceps, the simplest plan is to boil them. Metal instruments should not be placed in a mercurial solution, as metallic mercury is deposited on them, which not only weakens or destroys the germicidal properties of the solution, but also dulls the surface of the instrument.

At all lying-in hospitals the importance of cleansing the vulva is recognised, and the method of doing it does not vary very widely. Washing with soap and water, followed by thorough swabbing with a solution of corrosive sublimate, is the best plan, and the nurse should be instructed to do this as soon as labour sets in. It is obvious that unless this is done microbes, either putrefactive or pathogenic, will be introduced into the vagina, although every care has been taken to disinfect the hands. During the course of the labour the vulva should be sponged from time to time with cotton-wool soaked in the antiseptic solution. The necessity for the routine employment of an antiseptic vaginal douche at the commencement of labour is not universally recognised, and, though it is used in many, it is not used in all lying-in hospitals unless special indications are present. At any rate, the routine disinfection of the

vagina is much less essential than the routine cleansing of the vulva, because in the former situation pathogenic microbes are rarely met with, whereas in the latter situation such organisms are common. The employment of a vaginal douche would, therefore, seem to be, to a large extent, optional, though it may be pointed out that, besides the additional safety which it offers the mother, it possesses the further advantage of diminishing the risk of purulent ophthalmia in the infant.

In lying-in institutions where the patient is often examined by more than one person, the use of an antiseptic douche, after delivery is completed, is a wise precaution, but in private practice it cannot be regarded as necessary, especially if the examinations made have been few and the labour has not been instrumental.

The lubricant used is either vaseline containing perchloride of mercury in the proportion of 1 in 1,000, or glycerine containing the same substance in the same proportion. Vaseline is a much more efficient lubricant than glycerine, and its only disadvantage is that, being insoluble in water, it is not easily washed out of the vagina afterwards; but, if only small quantities are used, this is a matter of no importance. In many cases it is quite unnecessary to use any lubricant at all, and under no circumstances should lard or such like material be employed. It becomes apparent, on considering the details of the antiseptic methods of midwifery, that the two fundamental points are thorough disinfection of the hands and thorough disinfection of the vulva. To these two all the other details are subsidiary, and are to be regarded as additional precautions—precautions, it is true, which in many cases cannot afford to be neglected, but still of distinctly secondary importance. Attempts to make antiseptic methods too complicated and too elaborate often end in their being discarded altogether, with the result that the patient is exposed to grave risk, either of death or of serious and protracted illness.

Although many will be at once inclined to agree that precautions such as these are right and easily managed in lying-in institutions, yet how to carry them out in private

practice is a matter of much greater difficulty. We would suggest the following routine procedure, which is not unnecessarily complicated, and is easily carried out if a competent nurse is in attendance. Before full term is reached an order should be given to the patient to procure a packet of absorbent cotton-wool, an ounce of sublimated vaseline (1 in 1,000), and twelve powders prepared according to the formula given above, or, if preferred, at least two quarts of carbolic lotion (1 in 20). The nurse is instructed that, as soon as the labour pains begin, she is to wash the patient's vulva with soap and water, and then thoroughly sponge it with cotton-wool soaked in the antiseptic. A fresh supply of the antiseptic solution is then to be prepared and placed on a table by the side of the patient's bed, together with the jar of vaseline, so as to be in readiness for the doctor when he arrives. Before making any examination the hands are washed with soap and water, and then immersed in the antiseptic solution at the patient's bedside. The vulva should be sponged from time to time with pledgets of cotton-wool soaked in the antiseptic.

After labour is over and during the puerperium three basins should be placed side by side on the wash-stand, and permanently kept there. The first is to be used for washing the hands in when necessary, the second is used to contain a solution of perchloride of mercury, which is freshly prepared each morning by the addition of one of the powders to a quart of water. The third basin likewise contains a solution of the perchloride, and in it are kept the glass vaginal tube and catheter; but, if douching is not employed, the third basin is not necessary. The nurse is instructed to soak her hands in the solution contained in the second basin before doing anything for the patient which involves contact with the genital organs. If this plan is insisted on and explained to the nurse, there is no reason why in most cases in private practice antiseptic precautions should not be carried out as efficiently as within the walls of a well-managed hospital.

It should never be forgotten that all the knowledge of the accoucheur goes for nothing if he be not imbued with the antiseptic method.

The Month.

"Quidquid agunt homines."

At last there seems to be a prospect of London having a real University before long. Lord Rosebery evidently means business; but we must remember that, though Premiers may propose, too often a diminishing majority disposes. I hope, however, that the question will not be treated as a political one. The reconstruction of the existing University proposed by the Gresham Commissioners will have a far-reaching effect on higher education generally; but it is natural that a teacher in a London medical school should look at the matter primarily from the point of view of those whom he is assisting to train for the profession of medicine. It is absurd and intolerable that the city which offers the largest opportunities in the whole world of studying disease should be just the place where it is most difficult for the average student to get a degree. The London student who has used the opportunities which he has enjoyed is at least as well prepared to grapple with the emergencies of practice as the graduate of any University whatever; yet, as things are, he starts in the race of professional life handicapped by the want of a title which men in no way his superiors have obtained on comparatively cheap and easy terms. This is not merely a grievance to the student but, to a certain extent, an injustice to the public, who, excusably enough, are apt to think that the best man is to be known by his academic plumage. The scheme of having two Universities in London appears to me to be simply unworkable. The new Teaching University would inevitably lead to the atrophy of the old examining one, which in time would be absorbed into the infinite. Unless the University of London wishes to "perish in its pride," it must consent to a transformation which will make it a living body helping in the diffusion and advancement of knowledge instead of a mere Examining Board.

The ground on which those who resist this change base their opposition does not strike an unprejudiced outsider as particularly public-spirited. These gentlemen need not be so afraid that their vested interest in their degrees will suffer. The London degree is a hall-mark that will always retain its value in the eyes of those who know; to others all degrees are pretty much alike, and in medical practice the commercial value of such ornamental appendages is in great measure independent of the source from which they are obtained. The general depreciation of the London degree, which its present possessors are so afraid of, must entail a corresponding appreciation of it in their own particular cases. Their degrees will have a fancy value like a coinage no longer issued from the Mint. Has not something of the kind happened with the Senior Wranglers? Those of the older dispensation show all the more god-like by contrast with the mortals of meaner academic clay who now bear the same title. What is wanted is a University which, while insisting on the highest possible standard of teaching, shall grant a degree accessible to all students who work honestly for it. If a higher distinction is considered desirable for those who are not satisfied with the pass degree, let there be an "Honours" Examination of the most severe kind, or let some higher degree, such as "Doctor of Medical Science" (as already suggested in France), be conferred.

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The changes in the method of dealing with papers recently adopted by the Council of the Royal Medical and Chirurgical Society show that this somewhat high and mighty body is waking up to the fact that it would be to its advantage to treat those who wish to present communications to it a little less as if they were vassals offering tribute than it has heretofore done. Like most other institutions at the present day, it feels the pressure of competition; the day is past when it could have the cream of the work done in all departments of medical science without asking. There are so many societies nowadays which, while equally good as channels to the general ear of the profession, are more easily accessible, that the

privilege of reading a paper before the "*Medico. Chi.*" is not quite so highly valued as it used to be. Then the special societies must exert a strong derivative influence. Pathological work is naturally taken to the Pathological, obstetric to the Obstetrical, and so on. This leaves only a residuum for the Medical and Chirurgical Society—a residuum extremely precious in quality, no doubt, but very inconsiderable in quantity. The profession would be startled to hear the exact truth as to the number of papers now in the hands of the secretaries. Again, though we all know how select a body the Royal Medical and Chirurgical Society is, probably very few know how small it really is. I believe I am right in stating that there are at the present moment only 503 resident Fellows. In addition to these there are 279 non-resident Fellows, but none of the latter pay subscriptions except the dozen or so elected since March, 1892. The poet who sang, "Meet audience let me find, though few," would have found his prayer exactly fulfilled if he had read a paper before the Royal Medical and Chirurgical Society. It was high time, therefore, that something should be done to encourage men to bring the results of their work to the Society.

Now, no one can be more sensible than I am of the excellent service which this great society, with what Lord Rosebery would call its "chastity of professional honour," its high aims, the sustained excellence of its scientific work, and its fine library, has rendered, and is still rendering, to the medical profession. I think it would be nothing less than a calamity if, from failure to adapt itself to the altered circumstances of the time, it should lose anything of the pre-eminence among medical societies which it still justly holds.

To my mind the present multiplicity of societies, many of which necessarily clash more or less with each other, is a sheer waste of power. It seems to me that if all the existing societies (apart from mere local bodies) could be got to amalgamate, it would lead to a concentration of energy and a systematisation of work which could not fail to have the happiest results.

This Academy, as I conceive it, should be like a federation of States (sections of medicine, surgery, etc.), each with its own administrative autonomy, but all forming part of one organic whole. This is not the place to go into the details of such a scheme. As showing that it is not a mere dream, however, I may mention that when I gave an outline of it a year or two ago at a dinner of the Harveian Society it received the warm approval of the late Sir Andrew Clark and other leading men in the profession. I have no doubt that, if the late President of the Royal College of Physicians had lived, steps would have been taken to give the idea a concrete embodiment.

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The report of the Medical Defence Union, presented at the annual meeting on February 6th, is a record of remarkably successful work, which I hope will be brought to the knowledge of every medical man in the kingdom who is not yet a member of this most useful organisation. Thanks to the businesslike way in which the Union has been managed since Mr. Victor Horsley became its president, it is now in a thoroughly sound financial position; all liabilities have been cleared off out of income, and a handsome surplus remains. The guarantee fund amounts to over £5,000, having been increased by nearly £1,000 during the past year. The Medical Defence Union has already made its name a terror to the speculative solicitors, hysterical women, slanderers, and blackmailers who look upon doctors as their natural prey; it has protected medical men against overbearing Bumbles who sometimes find in the Notification of Infectious Diseases Act a convenient means of annoyance and oppression; and it has done what lay in its power to put down unqualified practice. The last-named evil is, however, too widespread to be dealt with successfully by the Medical Defence Union single-handed.

It is proposed, therefore, that the Union should ally itself for this purpose with the British Medical Association, the latter helping to provide the sinews of war and the former conducting the campaign. The Council of the B.M.A. would be adequately represented on the Council of the smaller body,

which would be known as the British Medical Defence Union. It is obvious that this alliance would greatly strengthen the hands of the Union, and the surplus funds of the British Medical Association could not be better expended than in the suppression of quackery. There is a growing feeling within the Association itself that this rich and powerful body should do something more in this matter than merely "influence legislation"; here is an excellent way of doing so. The thanks of the profession are due to Mr. Victor Horsley for the skill with which he has piloted the ship through shoals where, with less judicious management, it might easily have been wrecked.

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Les jours se suivent et ne se ressemblent pas, and the same may be said of French Governments, which follow each other at almost as short intervals. In one point, however, I am glad to see they have resembled each other of late, and that is in the inclusion of members of the medical profession in the Cabinet. Dr. Viger managed to retain the portfolio of Agriculture through several changes of government, showing quite remarkable tenacity of official life for a French Minister. In M. Dupuy's lately defunct administration two doctors were members of the Cabinet, and the present Cabinet also includes two, who preside (for the time being) over Agriculture and the Colonies respectively.

Medical men in France have for a long time back taken an active part in politics. Clémenceau is a doctor, and Paul Bert was almost as prominent in politics as in physiology. He died while Governor of French Indo-China, the most important colonial appointment under the French Government. Curiously enough M. de Lanessan, who was not long ago recalled from the same post, is also a member of the medical profession. In Germany Virchow used to be the leader of the Liberal party. In our own colonies doctors may be seen playing a leading part in public life and holding high office: not to mention Jameson of Mashonaland, there are Sir William McGregor, M.D., the Administrator of New Guinea, and Surgeon-Major Robertson, the famous "Political" of Chitral

and the explorer of Kafiristan. A medical man is a member of the Canadian Cabinet.

Perhaps it would be better both for the medical profession and the country if doctors were to take a more active part in politics than as a body they do. We should then be treated with a little more attention by legislators, and Lord Beaconsfield's maxim, *Sanitas Sanitatum*, would not be used as a mere electioneering cry, but be recognised and acted on as a fundamental principle of statecraft. We want a Minister of Public Health; but as a beginning we want more medical members of Parliament. As one step in this direction, I am glad to note that Dr. Fletcher Little is coming forward as a candidate for Oxford.

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The question of a common language is being debated in connection with the forthcoming International Medical Congress at Moscow. It would seem that the Russian Organising Committee rather favour the idea of adopting French as the official language of the Congress. If there is to be only one language, it is to be hoped that at any rate it will not be Russian. But why should there be only one language? The London, Copenhagen, and Berlin Congresses got through their business very successfully with three. It is true the meeting at Rome was a muddle; but the linguistic difficulty was not entirely, or even chiefly, responsible for this, although four languages were used. The necessity for some limitation in the matter of languages seems to have made itself acutely felt at the Congress of Hygiene held at Buda-Pesth, where members had to look as wise as they could during the delivery of addresses and the reading of papers in Hungarian. The next meeting of the same Congress, which is to be held in Madrid, is to be a veritable "feast of languages," no fewer than six being allowed.

The great objection to one common language is that those who have not a good working knowledge of it will be at such a disadvantage that they will probably not care to take part

in the proceedings. It may be said that everyone should be able to speak French; the fact must, however, be recognised that comparatively few Englishmen do. The proposal to revive the use of Latin as the international language of medicine appears to me to be the wildest of dreams. It is not likely that anyone would think it worth while to go to school again merely in order to attend a Congress. The common-sense solution of the difficulty, as far as the Moscow Congress is concerned, is to follow the precedent of Copenhagen and have three official languages—English, French, and German—the local tongue being excluded as not sufficiently understood of people in general. It would add greatly to the usefulness of such gatherings, however, if authors would have translations of their communications into the official languages of the Congress printed and circulated beforehand among members of the sections in which they propose to read them.

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How many of us take the trouble to keep careful notes of the cases we see? And how much of each practitioner's "gained knowledge" that might be valuable to others is, owing to this neglect, carried with him to the grave? The famous Dr. Jephson, of Leamington, was believed to have left priceless records of his enormous experience in his case-books; but when these were examined it was found that his observations in almost every instance were summed up in the simple diagnosis "Wind and Fat." The case-book of a celebrated specialist who died not many years ago contained nothing, in many cases, beyond the name of the patient and that of the practitioner who had sent him. *Truth* some time ago expressed great anxiety to know what becomes of a doctor's case-books when he dies. I cannot say, but I think it probable that in many instances there is nothing in them of any consequence.

Yet no one will deny that a note, however brief—the merest clinical thumbnail sketch, so to speak—made at the time is worth more than a fuller record put down by the

treacherous light of memory. Note-taking under ordinary conditions requires more time than a busy practitioner can well spare, but still it is a duty which cannot be neglected without disadvantage to ourselves and possibly to our patients. It may be useful to many to know that the trouble and the loss of time involved in note-taking can be greatly lessened by the use of shorthand. Dr. Gowers tells me that he estimates that the use of shorthand has enabled him to do twice as much literary work as he should otherwise have found it possible to accomplish; and other practitioners are almost equally warm in their acknowledgment of the help they have derived from it. The promotion of the use of shorthand by practitioners and students of medicine is therefore a work of unquestionable utility; and the recently founded Society of Medical Phonographers has a more legitimate *raison d'être* than many associations of larger pretensions.

The Society, which on December 31st, 1894, numbered 101 members, is managed by a provisional committee, consisting of Dr. Gowers and Dr. Taylor, of London, joint editors of the Society's magazine; Dr. Gray, of Oxford, Honorary Treasurer; Dr. James Neil, Warneford Asylum, Oxford, Honorary Secretary; Dr. Martin, Sheffield; Mr. G. Stone, Liverpool; and Dr. Cathcart, Edinburgh. The Society's periodical, *The Phonographic Record of Clinical Teaching and Medical Science*, is published monthly, except during the three vacation months—April, August, and September. It is intended to familiarise readers with the best outlines used in medical phonography, and at the same time increase their medical knowledge.

I understand that the establishment of the Society has led to the discovery of many practitioners who have used shorthand for years—one since 1857—and who are very decided in their recognition of the help it has been to them in their work. Among the advantages of shorthand are the facility and security with which correspondence can be conducted in it.

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The case of Dr. Lionel Smith, which was finally decided by the Privy Council on February 2nd, is a particularly disgraceful example of the law's delay. Some seven years ago this unfortunate member of the profession was dismissed from the post of Colonial Surgeon at Albany, Western Australia, on a technical charge of manslaughter, which was shown to be utterly unfounded. Yet when he sought redress for the wrong which he had suffered the Colonial Government not only refused to reinstate him, or to do anything to remove the stain which his wrongful dismissal had left upon his reputation, but it placed every possible obstacle in the way of his clearing his character. It is impossible to give here a detailed history of the proceedings, which have been fully set forth in the *British Medical Journal*, December 3rd, 1892; February 4th, 1893; and February 2nd, 1895. It is sufficient to state that when at last Dr. Smith was able to get a hearing (by entering a petition of right), the jury gave a verdict in his favour, finding that the Colonial Government had had no reasonable cause to dismiss him, and awarding him £200 damages and costs. Against this decision the Colonial Government appealed to the Full Court, and judgment was again given in Dr. Smith's favour. The Colonial Government then appealed to the Privy Council, and after a further long delay that tribunal has at last given its decision against Dr. Smith, thus affirming the right of Government to dismiss civil servants holding acting appointments (as was Dr. Smith's case) without notice and without assigning any cause. These officials are, in fact, absolutely at the mercy of the powers that be; and, as Governments are composed of human elements and are swayed by human feelings and motives, no man holding an acting commission under them is safe from being made the victim of personal malice or intrigue.

Dr. Lionel Smith has the satisfaction of having fully vindicated his character, but it is a grievance that he should ever have been called upon to defend it. The sole ground of his dismissal was the absurd verdict of a chuckle-headed coroner's jury. The Colonial Government has used the whole legal machinery at its disposal to crush him, and by persistence

in its monstrous attempt to blast his professional reputation has done its utmost to deprive him of the means of earning a living. He is now, after eight years of litigation and constant anxiety, a broken and beggared man who, with a family at the most burdensome period, finds himself compelled to begin the world again at fifty-two.

It is not for me to dispute the decision of the Judicial Committee of the Privy Council from a legal point of view, but if acting colonial surgeons can be dismissed in this high-handed fashion I imagine Governments will have some difficulty in finding men of any professional standing or repute to take posts that are held on so precarious a tenure. I prefer to deal with the case on the broad ground of common justice. Here is a man who has undoubtedly suffered grievous wrong. Nothing can now compensate him for the loss of these wasted years, the wrecking of his career, and the prolonged agony of mind which he has undergone, but something may yet be done to save him and those dependent on him from suffering still more. The duty of the Government seems to me to be clear. Either a sum of money should be granted to Dr. Smith sufficient to cover the loss which the prolonged litigation forced upon him, and the loss of his official emoluments and private practice have entailed on him; or a post of some kind should be found for him which will enable him to live and educate his family in the way befitting the position of which he was unjustly deprived. Some reparation is certainly due to Dr. Smith, and I hope Parliament will see that it is made without delay.

Public Health.

THE ADULTERATION OF MILK.

By general consent milk is justly regarded as the most important and indispensable of all articles of food ; but it has other claims to distinction. More often than any other food milk is found to become infected and to impart disease—usually diphtheria, scarlet fever, enteric fever, or diarrhœa—to a certain proportion of those who consume it in the uncooked state. Thirdly, it lends itself most readily to easy, profitable, and safe adulteration. According to the official reports of the Local Government Board, about one-fifth of the samples of London milk which are analysed are found to be watered or skimmed, and it has been calculated that this implies a loss to metropolitan consumers of fifty thousand pounds annually, out of some two million pounds which they pay for milk. It is true that London compares unfavourably with the rest of the kingdom in this respect, but on an average 13 per cent. of the many thousands of samples taken in England and Wales each year are found to be adulterated in one way or another. We shall see presently that this proportion, large as it may appear, is an under-statement of the real facts of the case. The fraud which it connotes is harmful in the sense of lessening the nutritive value, but infection of milk is another question altogether, usually brought about by agencies beyond the ken of the analyst, and for its detection and prevention we have to rely upon other measures than those which the Adulteration Acts bring into play. Still, he who waters the milk—or rinses the cans, as he would probably more euphemistically describe the operation—may not always be very careful as to the quality of the water he uses for the purpose ; and one of the many ways in which milk may become specifically contaminated is by the admixture of infected water. Practically speaking, the frauds which are to be looked for in connection with milk-supplies are of two kinds only—the addition of water and the subtraction of cream. In old days much was heard of chalk and calves' brains as occasional ingredients ; but the *fin de siècle* dairyman knows nothing of these, and when he appears in the police-court in response to a summons under the Adulteration Acts the charge nearly always resolves itself into one of dilution or

skimming, or both. Now and then an attempt is made to mislead the analyst, or, rather, to blind the public to the impoverishment of the milk, by fortifying it with condensed milk; but this device is a transparent one as far as the analyst is concerned, and is not of common occurrence.

The analyst has considerable difficulties to contend with. Milk varies much in composition, quite apart from any question of sophistication by the farmer or wholesale or retail dealer. It varies not only with season and food and according to the breed of cattle, but also to an inconvenient degree in individual cows, and patient and incessant research in the course of hundreds of thousands of analyses has brought to light instances of ability on the part of particular cows to produce milk of exceptionally watery and creamless quality. How, then, is the analyst to say that such qualities in a sample submitted to him are due to fraud? It must be confessed that in a great measure this problem is unsolved and likely to remain so. A naturally rich milk may be watered or skimmed up to a certain point without the analyst being able to distinguish the product from a genuine milk of moderate or inferior quality. What he does is to adopt certain minimum standards of composition, based on experience and fixed at such points that it is safe to assume that no ordinary cow would yield milk of lower grade. The assumption becomes a certainty for practical purposes when it is remembered that the sample nearly always contains the milk of many cows, not all of which can reasonably be supposed to share the exceptional peculiarity in question. In our daily supplies we have to expect an average and not an extreme of the different qualities of milk yielded by the several lactifers which have contributed to it. If, therefore, the verdict is that the sample is of moderate or inferior quality, the initiated will understand that this faint praise implies a condemnation which the judge is unable to bring home more precisely either to the cow or to the trade—at all events, with the certainty which is very properly required as an antecedent to a prosecution. But if, on the other hand, he certifies that the milk is watered or deprived of cream, as the case may be, it means that it is not only poor, but poorer than the poorest ordinary yield. Thus if the certificate runs that there is 10 per cent. of added water, the real dilution is probably far in excess of this. The 10 per cent. is calculated on the minimum standard, and not on milk of good or even average quality.

There is a curious tendency among magistrates in nearly every part of the country to ignore this, and to inflict totally inadequate penalties in the event of conviction. The daily profits which a dishonest vendor in a large way of business

can make by selling water at fivepence per quart are enormous, and small fines of a few shillings are in no sense deterrent. As long as he keeps clear of the fatal minimum standard he may dilute or skim with impunity, and even beyond that point detection is rare, conviction uncertain, and punishment usually nominal. So far has this ill-judged leniency gone that many public authorities will not prosecute unless the analyst certifies to a dilution of at least 5 per cent.; and some think that 10 per cent. is needed in order to make sure of overcoming the magisterial scruples, although the analyst has made a liberal allowance for accidents before beginning to count any dilution at all.

The Adulteration Acts (more precisely the Sale of Food and Drugs Acts) are very seldom put into force by private purchasers; and, as a rule, no doubt it is simpler to invoke the assistance of the officers specially charged with this duty. In large towns, and in many smaller places too, the sanitary inspectors take samples for analysis, under the direction of the medical officer of health, at the public cost. In rural districts the county authorities are often left to administer the Adulteration Acts through the inspectors of weights and measures; but everywhere the sanitary authority, whether urban or rural, has full power to do so. There are many formalities to be observed, both in the purchase and subsequently, and the omission of any one of them would be fatal to any prosecution that might arise. The article having been asked for and the purchase completed, the buyer must intimate that he has bought it "for the purpose of analysis by the public analyst," and must next offer to divide it into three parts. The vendor may accept this proposition or not. If he accepts, the milk must be divided into three approximately equal parts, one of which is to be handed to him, one to be sent to the analyst, and the third to be kept by the purchaser. Each must be safely enclosed and sealed in the presence of the vendor, and marked. The most convenient plan with milk samples is to use glass bottles, corked or stoppered, and, after securing the stopper, to place each bottle in a strong envelope, which is then to be closed, sealed, and marked with particulars as to date, place, article asked for—*e.g.*, new milk—and name of purchaser and vendor. The seal alone might be sufficient for identification, but the addition of the other particulars, although not strictly required, removes all doubt. With a view to subdivision, a pint and a half, or at all events not less than a pint, should be purchased, so that the analyst may have enough material to work with. If the offer of division be not accepted, the whole sample must be sent to him, but otherwise only the third part. It is

important to note that there is only one analyst to whom the sample can be sent—namely, the Public Analyst specially appointed under the Act for the district in which the purchase is made. The parcel may be conveyed to him by hand, or, if his residence is two miles or more from that of the purchaser, by registered parcel post. In due course his certificate will be received; and if it is such as to call for prosecution, a summons may be served upon the vendor within twenty-eight days from the date of purchase. The Act provides that the analyst's fee shall not exceed half a guinea; and sometimes it is fixed at a lower sum, in consideration of an annual salary being paid by the appointing authority.

There are two little instruments in popular use which are intended to determine in a simple and ready way whether milk is genuine or not. The first is known as the lactometer, and consists of an ordinary hydrometer, similar to the so-called urinometer, graduated so as to show how far the specific gravity deviates from the normal or average. Unfortunately, the two commonest frauds affect this instrument in diametrically opposite ways. The specific gravity is raised by abstraction of cream and lowered by watering, so that a low reading may be due either to richness in cream or to the addition of water, and a skilful adulterator, by judicious combination of dilution and skimming, could leave the lactometer reading at precisely the same point at which it stood before he took the sample in hand. However, his methods are usually of a more rough-and-ready kind, with little idea of scientific precision; and the lactometer will often render valuable assistance by directing attention to samples which need examination by an analyst. It can never prove a milk to be genuine. The other household appliance goes by the truly barbarous name of "creamometer," and is simply an upright cylindrical vessel of glass, six inches or so in height, and graduated in hundredths up to a mark near the top. It is filled with milk up to this mark; and, after standing for twelve hours, the volume of cream which has risen to the upper part is read off in terms of the graduation, which of course gives at once the percentage of cream. With genuine milk the reading may be as low as 6 or as high as 15 per cent. or more; if less than 6, suspicion of skimming arises. The indications of the creamometer are of a rough kind, but useful if taken in conjunction with those of the lactometer.

By the use of the "separator," a rapidly revolving vessel in which the heavier "skim-milk" is driven by centrifugal pressure to the circumference, while the lighter cream collects at the centre and is drawn off separately, a much more

complete removal of the fatty particles can be effected than by ordinary skimming. Owing to the increasing demand for cream, a large and perfectly legitimate trade of this kind has arisen, the skimmed or separated milk being sold as such at a low price. Fraud only begins when the product is passed off as new milk, alone or after mixture with the genuine article. The cream itself is sometimes thickened by the addition of gelatin, but as a rule the desired consistence is more cheaply attained in a way which is free from objection—namely, by refrigeration.

Condensed milk is an article of very uncertain quality, and the various brands differ much more in composition than the labels attached to them would imply. Some are made from whole milk, some from milk which has been deprived of all or part of its cream; and there is similar variation with regard to the admixture of sugars and other substances. The directions as to dilution are often misleading, and the diluted material does not by any means necessarily correspond at all closely in composition or nutritive value to ordinary milk. The aberrations are seldom to the advantage of the purchaser or consumer, but condensed milk is an artificial product, and it is not often that the wording of the label is such as to bring the vendor of inferior brands within the reach of the Adulteration Acts.

Under the Public Health Act of 1875 diseased, unsound, or unwholesome milk, if exposed for sale, may be seized by the medical officer of health or the inspector of nuisances, and the would-be vendor prosecuted; but, oddly enough, it is not an offence to have actually sold it in such a state, except in London or in the comparatively few provincial districts where the local authority have taken the trouble to accept the powers which the Amendment Act of 1891 places at their disposal. The seizure can only be made by the officers of the sanitary authority, and is an altogether different matter to the taking of samples under the Adulteration Acts. Milk is practically unsaleable as food in the putrid or even sour state, and seizures are rare. Infected milk could be seized were it not for the unfortunate fact that for the most part its infectiousness is first demonstrated (days or weeks after it has been consumed) by the occurrence of a localised epidemic among the consumers. Under other Acts restrictions are imposed with regard to the milk of animals suffering from cattle-plague, pleuro-pneumonia, and foot-and-mouth disease, and the employment in dairies, etc., of persons liable to carry infection of any "dangerous infectious disorders"; and in some parts of the country it is possible, after certain rather cumbrous formalities, to stop the sale of infected milk.

A Medico-Literary Causerie.

THE EARLY HISTORY OF THE SURGICAL PROFESSION IN FRANCE.

THE art of healing was originally, like the French Republic, one and indivisible. The artificial distinction between medicine and surgery was unknown to the ancients. How did things which Nature had joined together come to be put asunder? At first sight it might be thought to be the result of the inevitable process of specialisation; and the first division of the healing art would naturally take place along the main line of cleavage. This, in fact, did take place to some extent in the days of Imperial Rome, but it is not the explanation of the divorce between medicine and surgery which, beginning in the Dark Ages, became absolute in the seventeenth and eighteenth centuries, and which still persists, though in a lesser degree, in our own day.

The history of the relations between physicians and surgeons, and their rivalries and quarrels, is full of interest, not only to members of the medical profession, but to the historian. Apart from the question of scientific development, the annals of the medical corporations are full of incidents which throw curious sidelights on the social life and intellectual conditions of past ages, and illustrate the constitution of universities and the organisation of guilds in mediæval times. Broadly stated, the history of these bygone controversies is the record of a continuous struggle on the part of the surgeons to emancipate themselves from a professional thralldom in which the physicians strove with equal obstinacy to keep them. The battle, though by no means confined to France, was fought out with greater bitterness there than anywhere else. It is told with much spirit by M. Alfred Franklin in his book "*Les Chirurgiens*," forming part of the series entitled "*La Vie Privée d'Autrefois*" published by E. Plon, Nourrit et Cie. (1893). The following brief sketch of the long war between the physicians and the surgeons of Paris is founded on this work and on the late Dr. Maurice Raynaud's book, "*Les Médecins au Temps de Molière*" (Deuxième Édition, Paris, 1863).

The science, as well as the literature, of the ancient world was buried under the ruins of the Roman Empire, and in

the early Middle Ages the art of healing, such as it was, was almost entirely in the hands of the clergy. So intimate was the connection between the Church and the practice of medicine that for centuries the members of the Medical Faculty of Paris were under the law of ecclesiastical celibacy, whether they were actually in holy orders or not. Although a priest could minister to the body as well as to the soul of a sufferer, he was forbidden by the canon law to shed blood even by way of remedy. The maxim *Ecclesia abhorret a sanguine*, which made it necessary for the Church to invoke the aid of the Civil power in dealing with heretics, made it equally necessary for the priestly physicians to use the hands of laymen in carrying out such details of treatment as involved the loss of blood. These lay assistants also doubtless rendered the services to the sick which the priest might have thought derogatory to his sacred character. Here we have the germ of an inferior order of practitioners whose functions were limited to the execution of the behests of his priestly superior.

But the strongest influence tending to the separation of surgery from medicine was the belief, or rather sentiment, universally prevalent in feudal times, that any occupation involving the use of the hands—except in fighting—was in itself degrading. Among the nobility the contempt for everything in the nature of handicraft extended even to the art of writing; and learning would have thought itself profaned by any association with manual labour. Hence the surgeon was looked upon as a mere artisan—the *hand* to be directed by the governing brain of the physician. In M. Nicaise's edition of the "Chirurgie" of Guy de Chauliac (1363) there is an illustration reproduced from a contemporary manuscript which shows the relative positions of the physician and surgeon in the fourteenth century. A majestic-looking physician in flowing robes is portrayed, giving instructions on the one hand to a surgeon who, in a crouching attitude, appears to be sharpening a knife; on the other to an apothecary who is using a mortar and a pestle.

The absurd idea as to the inferiority of handicraft persisted in full force till feudalism was swept away by the Revolution; but as regards surgery, traces of it still survive in the public mind, and even here and there among medical practitioners of the old school.

The first distinct mention of a corporation of surgeons in Paris is about the middle of the thirteenth century. Its beginnings were very humble. Up to that time surgery had been entirely in the hands of barbers, who added bleeding and other minor operations to the proper business of their trade. Gradually the more aspiring spirits among them gave

up shaving and hair-cutting and devoted themselves entirely to the practice of surgery. In 1268 a special brotherhood of surgeons was formed by Jean Pitard or Picard, barber-surgeon to no fewer than four Kings of France—Philip IV., Louis X., Philip V., and Charles IV. The new brotherhood was placed under the patronage of Cosmas and Damian, two saints of the Roman Calendar, who, according to tradition, had practised surgery. This “Brotherhood of St. Côme” does not appear to have been an independent community, but only a section of the corporation of barbers. That worshipful fraternity was now divided into two classes—the barbers who were that and nothing more, or “lay barbers,” later called “barber-surgeons” and “short-gown surgeons”; and the “clerk barbers,” also known as “surgeon-barbers,” “surgeons of St. Côme,” and “long-gown surgeons.” As was to be expected, the subsequent history of this curious fraternity was one of determined struggle on the part of the surgeons to cut the shavers adrift, while the latter naturally clung pertinaciously to a union which gave them not only greater social importance but larger earnings.

As early as the very beginning of the fourteenth century we find clear evidence that some kind of public examination had to be passed by barbers ambitious of wielding the lancet as well as the razor. The examiners were the “sworn master surgeons dwelling in Paris,” convened for the purpose by the King’s own barber-surgeon. In those days, however, it was one thing to issue ordinances of this kind, and quite another to get people to pay any particular attention to them. Accordingly we find one Sovereign after another issuing decrees of exactly similar purport, showing that previous enactments had remained practically dead letters. Thus in 1352 we find King John the Good expressing his royal regret at the condition of the craft of surgery in his “city and vice-county of Paris.” From the preamble to this enactment it may be gathered that there were a good many black sheep in the surgical fold at that time. The King is grieved to learn that murderers, thieves, forgers, quacks, alchemists, money-lenders, and shady characters of various kinds (*alii murtrarii, alii latrones, nonnulli monetarum falsatores, et aliqui exploratores et holerii, deceptores, alquemiste et usurarii*), “take upon themselves to practise chirurgery publicly, in spite of their ignorance, as if they had passed a sufficient examination; that they put on their shops signs similar to those of real chirurgeons,” etc. Wherefore he forbids anyone, male or female (*nullus chirurgicus, nullave chirurgica*), to practise surgery until he or she has been examined and found proficient in the art. A heavy fine, one-half of which was to go to the

Brotherhood of St. Côme, was imposed on barbers who trespassed on the surgical domain thus enclosed by royal ordinance. A similar ordinance, couched in almost identical terms, was issued in 1364.

This might have been taken to be a final dissolution of the unnatural alliance between the surgeons and the barbers; but the triumph of the surgeons was short-lived. Probably the decree was as much a dead letter as the previous ones had been. At any rate, a very few years after it was passed we find from another royal ordinance that the fact that "almost all barbers concern themselves with chirurgery" is officially recognised, and the practice is implicitly sanctioned by being made the basis of certain privileges. The right of the barbers to practise surgery was confirmed by an ordinance passed in 1371, which placed the whole corporation—the surgical as well as the tonsorial section—under the wardenship of the king's head barber and *valet de chambre*. The victory of the barbers was made still more decisive by a further ordinance, bearing date October 3rd, 1372, which confirmed their right as members of the commonalty to supply and administer plasters, ointments, and other remedies suitable for the treatment and cure of "all manner of boils, lumps, aposthumes, and all open wounds." It is pointed out that "the chirurgeons and sworn master leeches (*mires*), under cover of certain privileges which they claim to have obtained from our predecessors, have striven to disturb and hinder the said barbers in the practice of the things above mentioned: which is greatly to the prejudice and injury of the said barbers, and also contrary to reason, and to the public weal of all our subjects, seeing that many poor folks who have divers accidental ailments could not, as they do with the barbers, have recourse to the said master chirurgeons, who are persons of great condition, charging heavy fees." The King therefore, having taken counsel in the proper quarters, decrees that in future barbers shall be at liberty to undertake independently the treatment of any case, provided there be an "open wound," and that in the exercise of their rights they must "in nowise be molested, interfered with, or hindered by the surgeons and sworn master leeches." This ordinance bears the name of Charles V., surnamed the Wise, a monarch who took so much interest in surgery that he had his name entered on the roll of the Brotherhood of St. Côme. His Majesty, however, appears to have been greatly under the influence of his barber, who no doubt inspired the ordinance, which was really a Charter of surgical liberties to his brethren of the soap-brush.

The surgeons, thus thrown over by the King, now turned to the University for support. They debated and lectured in

Latin, examined candidates, and granted degrees (Licentiate, Bachelor, and Master), and in fact posed as a learned body; on these grounds they asked to be incorporated with the Faculty of Medicine. The University, however, would have none of them unless they came as learners (*tanquam veri scholares et non alias*). Twice (in 1390 and in 1436) did the physicians contemptuously reject the advances of the surgeons, who were finally thrown back to the detested fellowship with the barbers by an ordinance passed in 1465 by Louis XI., at the instigation of his barber, the famous Olivier Le Dain, whose relations to his royal master are so well set forth by Scott in "Quentin Durward."

Before wasting any sympathy on the brethren of St. Côme for the scurvy way in which they were treated both by the King and the University, the modern surgeon would do well to look at these forerunners of his as they really were. In their efforts to separate themselves from the barbers and to assimilate themselves to the physicians, the French surgeons of the fourteenth and fifteenth centuries had come to occupy a truly ridiculous position, being professionally neither fish nor flesh. Despised as handicraftsmen by the physicians, they strove to rid themselves of this stigma of inferiority by leaving bleeding and minor surgery to the barbers. At the same time they were afraid to undertake anything in the nature of major operations, which, so far as they were performed at all, seem to have been entirely in the hands of a distinct class of practitioners, known as *inciseurs* or cutters. These men, who were probably travelling quacks like the lithotomists referred to in the famous "Oath" of Hippocrates, cut for stone, and operated for hernia, fistula, etc. The surgeons appear to have tried to exercise some kind of control over these operators, but it was more a feudal lordship than actual government. The *inciseurs* were invited to present themselves for examination before the Brotherhood of St. Côme, but it is doubtful whether they often availed themselves of the privilege. Such as did had to bind themselves not to operate except in the presence of a surgeon. The latter, however, did not interfere in any way; in fact, the only active part he took in the proceedings was to receive a fee on behalf of his Brotherhood when all was over.

In this position the surgeons remained till the end of the fifteenth century, when the long struggle between them and the physicians began, or, rather, entered on a more acute stage, for there had always been some smouldering jealousy between them. This must be left for another article.

(To be continued.)

Reviews of Books.

A Treatise on the Diseases of the Ear.—By T. MARK HOVELL, F.R.C.S. Edin., M.R.C.S. Eng., Aural Surgeon to the London Hospital.—London: J. & A. Churchill. 8vo. 1894. Price 18s.

Diseases of the Ear.—By A. MARMADUKE SHEILD, M.B. Cantab., F.R.C.S. Eng., Assistant-Surgeon to St. George's Hospital, late Assistant-Surgeon and Surgeon-in-Charge of the Aural Department of Charing Cross Hospital.—London, Paris and Melbourne: Cassell & Company, Limited. Price 10s. 6d.

Diseases of the Upper Respiratory Tract, the Nose, Pharynx and Larynx.—By P. WATSON WILLIAMS, M.D. Lond., Physician to Out-Patients and in Charge of the Throat Department at the Bristol Royal Infirmary.—Bristol: John Wright & Co. Price 8s. 6d.

The Anatomy of the Nasal Cavity and its Accessory Sinuses.—By Dr. A. ONODI. Translated from the second edition by STCLAIR THOMSON, M.D. Lond., F.R.C.S. Eng., M.R.C.P. Lond.—London: H. K. Lewis. Price 6s.

BUCKLE said with truth that the philosophy of a subject lies never at its centre, but always at its circumference—at its points of contact with other subjects. The works at the head of this review illustrate the practical application of this idea. Although written on special subjects by authors with special experience, they are addressed chiefly to students and practitioners, and throughout their pages the dependence of the well-being of the throat, ear, and nose on the health of the body generally, and the reaction of general affections on these organs, is kept before the reader with the clearness and force that is founded on a wide anatomical, physiological, and pathological grasp of the subject. It would be a platitude to refer to the recent rapid progress of any department of medicine; yet, perhaps with the exception of abdominal surgery, nowhere has the increase of knowledge and power been more marked than in the study of otology and rhinolaryngology. Probably no speciality has ever advanced so swiftly as laryngology. It is only forty years since the hale nonagenarian, who was so recently entertained by the

Laryngological Society, presented a paper to the Royal Society of London entitled "Physiological Observations on the Human Voice." Yet Signor Manuel Garcia is the undoubted father of laryngology, and in the four decades which have passed since then his invention has led to discoveries which eclipse those made in any other speciality during a similar period. Otology has certainly been left behind by her younger sister; but how great has been the progress since ear diseases were scoffingly divided into two classes, "those which are cured by squirting up the ear, and those which are not"! The connection of aural affections with neighbouring parts has led to some of the most brilliant results in recent surgery, and a deeper knowledge of the causes of deafness places it within the power of parents and practitioners to avoid many—in fact, we venture to say a large majority—of the ear troubles of adult life. In looking about for the causes of this development we would ascribe prominence to the great success which has followed local treatment under antiseptic principles and a fuller knowledge of the physiological importance of the nose. Yet these very factors, as would appear inherent in all progress, have had their attendant drawbacks. They have led to an over-enthusiasm in local interference, and a neglect of what was formerly called, and what recent pathology allows us still to refer to as, "the constitution of the patient." We have now passed through this period of *Sturm und Drang*, and the works before us are admirably illustrative of the serener stage which has been reached, where topical medication is fairly referred to, but has its limitations indicated, while due importance is given to the indications which call for what is known as general treatment. They are of the happiest augury also in showing the present tendency of specialists to generalise and of general practitioners to specialise. These works are written for students and practitioners, and before examining them in detail we would say at once that they eminently fulfil their purpose.

The first book on our list is a large and elaborate work of 720 pages with a well-executed index. The first two chapters treat of the anatomy and functions of the external and middle ear, while the chapter on the anatomy and physiology of the internal ear is postponed until towards the end of the book. The descriptions in these chapters are clear, and the details well illustrated; considerable labour has obviously been bestowed on this part of the subject, the researches of others being duly quoted and acknowledged. The chapters on the examination of the ear and nose are good and thorough, though perhaps illustrations of chairs and lamps serve little useful purpose. The directions for treatment are also ample, possibly too

ample, and the author seems to have been so anxious to quote and give credit to the methods of others that he does not positively state his own experience, which must be large, of debatable matters. We are glad to see that he condemns treatment of strictures of the Eustachian tubes by bougies, and the rough methods of tearing away nasal polypi with forceps; but it would be of importance to know the author's opinion on such points as the injection of pilocarpine, the value of electricity in nerve deafness, "massage" of the auricle, or the removal of turbinal bones. It is not enough to say that these methods of treatment exist, and that opinions are divided upon them. An author of experience, in a large and elaborate work, should positively lay down the results of his experience as safe guides for others to follow. Throughout the book this failing is shown; but it scarcely detracts from the general value of the work. The book is illustrated by 122 figures, which are on the whole well executed and clear. There are no coloured representations of diseased conditions of the membrana tympani, such as are usually to be found in works of this nature. The author possibly considers that the difficulty of reproducing them accurately is so great that diagrammatic drawings are better. Enough has been said to indicate the general plan and merits of the work. It has few faults and many excellences, and its thorough and elaborate execution gives it a leading place among works of reference in this department of surgery. As such, we cordially recommend it to the notice of the profession, and especially of those who practise aural surgery.

Mr. Marmaduke Sheild's work deals chiefly with such aural affections as are apt to come under the notice of all general practitioners. The sketch of the anatomy and physiology of the ear is therefore concise but clear, while the method of examination is not overlaid with complicated details. He lays stress on the connection of aural mischief with the naso-pharynx, and the necessity of habitually examining this region. "The vast majority of cases of middle-ear inflammation have their origin in like affections of the mucous membrane of the naso-pharyngeal tract, the inflammation spreading by direct continuity of tissue. This will be found to be a matter of great importance in the prevention of tympanic inflammations or the concomitant treatment of them." "A careful exploration of the naso-pharynx in cases of chronic deafness should never be neglected." Again, when referring to acute intra-tympanic inflammation, he says, "most commonly this malady is brought about by the direct extension of severe inflammation from the throat and naso-pharynx." "The practitioner should always have the

probable explanation of these acute suppurative inflammations before his mind, for then he will appreciate the importance of cleanliness of the naso-pharynx in cases likely to be complicated by acute otitis media." The author therefore gives full directions for the prevention of ear troubles in the various zymotic diseases; and, referring to chronic aural catarrh, he writes, "When we reflect that these cases have their foundation in slight attacks of deafness, due to such causes as enlarged tonsils, adenoid growths, nasal stenosis, or catarrh of the naso-pharynx that could easily be removed in the young by appropriate treatment, operative or otherwise, the responsibility of the parent or practitioner is great who allows such cases to become chronic, and to drift into hopelessness." While calling attention to impeded respiration from unhealthy conditions of the nose and pharynx, Mr. Sheild deprecates anything like wholesale or injudicious operating upon the nasal cavities in cases of aural disease. He, however, refers his readers to works of rhinology for this department, and only gives sixteen pages to a short sketch of the nasal affections causing or complicating deafness. In this he appears to confuse hyperæmic conditions of the mucous membrane with hypertrophic rhinitis. Such simple but important subjects as cerumen and eczema of the auricle are carefully treated of; while the important subjects—and ones so apt to concern the general surgeon—of mastoid disease, sinus pyæmia, and adenoid growths are dwelt on at length, and contain the most recent established data on these matters. With reference to the relations of the mastoid antrum a most unfortunate slip has been made on page 14, where Mr. Treves is quoted as the authority for the statement that "the distance of the antrum from the lateral sinus is from three to six inches!" Fortunately this error is made manifest on the following page, where we read that the S-shaped bend of the lateral sinus is found about half an inch behind the auditory meatus; and a reference to Treves's "Surgical Applied Anatomy" (p. 79) shows that the reading should be millimetres instead of inches. In the treatment of acute otitis media two important points have been omitted: the necessity of keeping the middle ear inflated, and of rendering the external meatus antiseptic as a precautionary measure in case the membrane ruptures spontaneously. The author is extremely judicious in his references to intra-tympanic medication, and incidentally refers to the frequent misuse of chloride of ammonium inhalations. He shows the same caution when treating of operations on the membrana tympani or ossicles for the relief of deafness. We note that he finds no artificial drum has any superiority to the original cotton-wool pellet of Yearsley.

There are some very practical pages on malingering not always found in manuals of otology, but a subject of importance to those practitioners who have officially to do with large bodies of men. The book concludes with a selection of formulæ, containing in the way of drugs everything that is likely to be necessary for local medication. There are no references; but this is not missed in a book of this purpose. By the way, the name of the distinguished Parisian aurist is Löwenberg, and not Lowenburg (pp. 44 and 217). We cannot quite subscribe to Mr. Sheild's heroic order of eight to ten leeches, which is his "ordinary rule of practice" when blood-letting is required for acute otitis media (p. 102). In dealing with the important, if much-discussed, subject of post-nasal growths, we might have wished that a fuller description were given to operation with forceps and curettes, instead of the evident favour shown to the steel nail. However, Mr. Sheild in his preface states that the bulk of the work is solely drawn from his own experience. Any slight omissions are therefore more than compensated for by the strong spirit of individuality which breathes through these pages. The work, although small, shows no sign of being a condensation of the opinions of others; it is stimulating with the essence of personal knowledge and the confidence, begotten of success, in recommending the proceedings advised. The style is simple and lucid; there is not an involved sentence in the book. At the same time it is not a bald statement of facts, but an extremely clear and gracefully written manual of otology. We commend it strongly to all who wish to have some practical knowledge of ear diseases. It contains everything that a general practitioner should know on the subject, and nothing that he would find superfluous. We have only to add a word on the excellence of the coloured plates. They contain some of the most successful illustrations we remember to have seen of diseased membranæ, and will go far to help those who may have neglected this subject, and who are now anxious by private study to make themselves acquainted with objective conditions.

Since the province of the laryngologist has extended down the trachea and up into the nose, Dr. Watson Williams has adopted an equally comprehensive title for his work. On the Continent the still more extensive field embraced by "*les voies aériennes supérieures*" allows the throat specialist to extend his domain even along the Eustachian tubes. The "*Diseases of the Upper Respiratory Tract*" begins with a brief sketch of the anatomy and physiology of the nose. Here we notice an error in placing the hiatus

semilunaris behind the bulla ethmoidealis. It lies in front and below it, as a reference to the plates in the fourth book on our list would at once show. In Fig. 2, therefore, the x is not placed on the bulla (which is called ethmoidealis, and not "ethmoidalis"), but on the anterior margin of the hiatus, formed by a fold of mucous membrane covering the processus uncinatus; (2) is placed on the bulla. While quite agreeing with Dr. Williams on the important respiratory function of the nose, and on the frequent unfortunate consequences of mouth-breathing, we cannot quite admit that "the nose performs important functions which cannot be fulfilled by the mouth," or that "it is obviously impossible for that amount of moisture (i.e., about half a pint of water in the course of twenty-four hours) to be taken up from the bronchial mucous membrane without serious risk to its physiological integrity." The latter point is contradicted by our daily experiences with tracheotomised patients; and the researches of Schütter have shown how such individuals can get along very well without either the nose or the mouth for warming and moistening the inspired air. Nasal respiration is most important to health, and there are other reasons for adopting it in addition to those given by the author. The anatomy of the larynx is only referred to from its clinical appearance; and here we notice that the plural of *processus* is given as *processi*, instead of *processūs*. Coming now to the body of the work, we notice a little too much tendency to quote various views without indicating the one adopted by the author. However, although the work differs from the last one we have referred to in this respect, it reflects the purpose of the author "to place before the reader the opinions of the recognised authorities on the surgical treatment." At the same time, it is to be regretted that some bibliography, or, at least, fuller foot-notes, were not given to enable readers to refer to these quotations. In opening tonsillar abscesses a fairly-deep vertical incision is recommended, when puncture with sinus forceps and enlargement by Hinton's method is both simpler and more certain. The differential diagnosis of suppuration in the nose is somewhat incomplete. Having drawn attention to these few points, we have nothing but commendation for the main bulk of the work. It illustrates admirably our introductory remarks, in that it keeps constantly in prominence the necessity for bearing in mind the general condition of the patient. The chapters on the throat affections of infectious fevers, gout, and rheumatism are admirably done; and the subject of the motor neuroses of the larynx is rendered as clear as can be. Syphilitic and tubercular troubles are well dealt with, and there is a

good chapter on hay-fever. As the work is chiefly intended for practitioners, these good points deserve special commendation. The wealth of artistic, clear, and suggestive illustrations make the book of great value to those who wish to bring themselves up to date on this subject; and the most recent ideas and suggestions are included, embracing even the anti-toxin treatment of diphtheria. Some useful formulæ conclude the volume; but we would call attention to the slip in No. 45, where a nasal douche is recommended containing 30 grains of carbolic acid to 2 ounces—evidently a misprint for 3 grains. On the whole, any defects are only to be found in those subjects which are more likely to concern the specialist. For the general practitioner who wishes to have the most recent and most practical teaching on this subject it is a useful work. Not the least important point is that, in spite of the excellent production of the work, its moderate price places it within easy reach of all.

"The Anatomy of the Nasal Cavity and its Accessory Sinuses" is an excellent atlas of the normal anatomy of this region. Clinical examination of the larynx alone will reveal to a great extent its surgical anatomy; but it is not so with the nose, where a previous thorough knowledge of the situations of the various openings, processes, and meatuses is of primary importance to any one who would investigate the region. The scarcity of cadavers, and the difficulties of making sections, have fully justified Dr. Onodi in publishing these beautiful engravings. Within the compass of sixteen plates he has succeeded in giving easily and clearly the surface anatomy and relations of the nasal cavities. The connections of the brain, eye, and ear are well seen; the opening of the various sinuses can be easily studied; and a clear idea is readily obtained of the size and connections of the several meatuses and sinuses. Each plate is a model of the engravers' art, and the artistic value of the production is worthy of all praise. The letterpress consists of a brief—almost too brief—sketch of the subject. Dr. StClair Thomson has, therefore, done well to enlarge the description of the different figures so that they may be studied with the help of a manual of anatomy. We notice that he has followed Professor Macewen in abbreviating "turbinated body" into "turbinal." He has avoided the pitfalls of making the plural of *meatus* into *meatūs*, which is correct, but awkward; or into *meuti*, which is wrong. He Anglicises it into "meatuses."

The dissecting-room fails to give anything like a clear or practical conception of the topography of this region. Such a knowledge could only be obtained by the study of a number of sections made in various planes. The difficulty of obtaining

or referring to such specimens will render this book simply invaluable to students of anatomy, and a glance at its pages will reveal what a long description might still leave obscure. All engaged in head surgery will find it of the greatest interest and value; it should be studied by every one occupied with the diseases of the throat, eye, and ear; and it will greatly help rhinologists to answer the question which was Morgagni's first principle—*Ubi est morbus?*

A Handbook of the Diseases of the Eye.—By H. R. SWANZY.
Fifth Edition. Edited by Louis Werner, M.B. London:
H. K. Lewis. 1895. Price 10s. 6d.

A TEXT-BOOK which has reached a fifth edition has established itself as a favourite and needs no recommendation. We are glad to see Dr. Werner associated with this edition. The addition of a younger and most energetic teacher ensures that the wants of students of the present day will be known and supplied; and it is probably due to him that the more elementary parts of the book, which were rather cramped in some of the earlier editions, have been enlarged and improved. The present edition is considerably larger than its predecessors, but has still been kept within convenient limits, and the balance between different parts of the book has been on the whole carefully preserved. We note a few statements which might be modified with advantage—e.g. the physiological cup is stated to be *always* on the temporal side of the disc, whereas the author, as well as every other ophthalmic surgeon, knows perfectly well that it is frequently central, and occasionally in other situations. Again: "Sometimes a healthy optic papilla will be met with in which the excavation apparently reaches the margin all round." This statement is in such direct contradiction to the context immediately preceding, so inadequately explained by what follows, and so at variance with general experience, that it requires fuller explanation. The author expresses surprise that the normal reflex ring encircling the macula is not visible with the direct method. If he had employed the short-focus mirror in common use in this country, he would have found that it was not only visible but conspicuous. The chapters dealing with superficial affections are very complete. Trachoma is so common in Ireland that the author's remarks are of especial value. We note that he takes a much more favourable view of the safety and efficacy of the jequirity treatment than obtains in England, where its use has been generally abandoned. Glaucoma is dealt with very fully. The author adopts the view that the so-called simple glaucoma iridectomy

often does harm, and is so seldom beneficial that, as a rule, it should not be performed in this condition—a view which is gradually gaining ground. Although scleral puncture is mentioned as an adjunct to iridectomy in cases of so-called malignant glaucoma, in which the lens is pushed violently forwards after the iridectomy, thus blocking the angle of the anterior chamber, we do not gather that the author has tried it; nor do we see any mention of Mr. Priestley Smith's suggestion of a scleral puncture immediately before the iridectomy with the view of facilitating the operation. Those who have had to operate on a hard eye with an extremely shallow anterior chamber will fully appreciate the great advantage of this. In the extraction of cataract Dr. Swanzy adheres to the iridectomy as part of the operation, and continues to use a pad and bandage. Here he is in accord with the majority of surgeons in this country, but at variance with some Continental and American writers. The subject of ocular symptoms in connection with intracranial affections is fully dealt with as in other editions. We can recommend this book in every respect to the student and the practitioner, while in many respects it will be useful as a work of reference for the specialist or the physician.

The Physiology of the Carbohydrates: their application as Food and relation to Diabetes.—By F. W. PAVY, M.D., LL.D., F.R.S. London: J. & A. Churchill. 1894. Price 10s. 6d.

THE name of Dr. Pavy has been so long associated with the question of the part played by the carbohydrates in the animal economy and the allied one of diabetes, and the high character of his work is so well known, that this book, summing up as it does the labours of a lifetime of patient research, is sure to command attention, and will receive, we are convinced, a warm welcome from the profession at large. Whilst the work bristles with points on which many physiologists will join issue with the author, no one can fail to be struck by the untiring patience and care devoted to the investigations undertaken, as they have been, with an earnest desire to arrive at the truth. Dr. Pavy begins with a reference to the chemical constitution of the carbohydrates and their groups, and alludes to the researches of Emil Fischer on the combination of cupric oxide reducing sugars with phenyl-hydrazine to form *osazones*, which crystallise out and afford a ready means of identifying the different sugars. He used for quantitative purposes his own ammoniated cupric test, and the body of the volume gives ample evidence of a

vast amount of painstaking research in the careful analyses of the portal blood, liver, etc. As a result of his researches Dr. Pavy denies that the liver is in a more saccharine state than the other organs of the body, and that there is a disappearance of sugar at the capillaries. He finds that the blood flowing from the liver does not contain more sugar than the general circulation, and the same proportion is excreted in the urine. He looks upon the liver as a barrier in relation to carbohydrate matter; when it is insufficient and the carbohydrates are not properly stopped and disposed of, they reach the circulation in the form of sugar and give rise to glycosuria. Dr. Pavy claims that clinical experience justifies this view of diabetes, and is confirmed by the results of treatment. This leads the author to make some remarks upon the management of diabetic cases which are well worthy of perusal. With regard to the ultimate fate of the carbohydrates Dr. Pavy holds they may undergo (1) transmutation, arguing by analogy from the vegetable world and from experiment; (2) application to the production of proteid, citing his own researches on the glucoside constitution of proteid matter in support; and (3) transformation into fat, which he seeks to prove by showing that when rabbits are fed on oats, fat may be seen abundantly in the cells of the intestinal villi. In fact, he looks upon the latter and the liver as the chief agencies in preventing the entrance of sugar into the general circulation. Whether Dr. Pavy will induce physiologists to believe that "the doctrine giving to the liver a glycogenic function must be absolutely abandoned" is doubtful. In any case, he expounds his views in a masterly way with great moderation, and we can warmly recommend the book as a source of much valuable information.

Syphilis.—By ALFRED COOPER, F.R.C.S. Second Edition.
Edited by E. Cotterell, F.R.C.S. London: J. & A. Churchill. 1895. Price 18s.

THE important advances which have been made of recent years in the study of syphilis have prompted Mr. Alfred Cooper to issue a second edition of his work on this subject, originally published in 1884. In this volume is embodied in a practical form the additional knowledge on the subject which has been accumulating for the past ten years, and we can confidently affirm that the hope expressed in the preface that this work would prove a reliable help and guide to all who are engaged in the study of syphilis will be amply fulfilled. In a work covering so vast an extent of ground as the one under notice there must necessarily be expressions

of opinion to which exception might be taken by some; but on the whole this volume is a clear exposition of the subject, and may be taken to represent the views of the majority of syphilographers in this country. The author is a firm believer in the infallibility of "Colles's law," and devotes some pages to a refutation of supposed exceptions to this dogma. However, two of the objections which he brings forward to explain away Ranke's well-known case—objections which were also advanced by the late Mr. Berkeley Hill in his work on the same subject—fall to the ground on a closer study of the facts. The author says that no note was taken of the condition of the axillary glands of the mother, who, according to Ranke, was infected from suckling her child, and also that no information was given as to whether her former child was suckled or not; but Ranke's paper states that the axillary glands *were* enlarged, and also that the previous child *was* brought up by hand. In a short chapter devoted to syphilitic reinfection, the author remarks on the importance of these cases as bearing on the question of the curability of the disease, and leads us to infer that he is a believer in the possibility of an ultimate cure. The numerous cases on record of second attacks of syphilis are to our mind conclusive evidence on this point, and should go far to refute the gloomy theory enunciated by Ricord—that the disease once produced lasts for ever, and that treatment can only cause the manifestations of the disease, and not the disease itself, to disappear. The book is illustrated by twenty coloured plates figuring various manifestations of the disease and illustrating its histology, and thereby its value is considerably enhanced; while the chapters on diseases of the eye and ear, on nervous affections, and on insanity have been revised by well-known authorities on those branches of the subject.

The Prevention of Epidemics and the Construction and Management of Isolation Hospitals.—By ROGER MCNEILL, M.D. Edin., D.P.H. Camb., Medical Officer of Health for the County of Argyll. London: J. & A. Churchill. 1894. Demy 8vo, pp. 247. Price 10s. 6d.

DR. MCNEILL'S text is the prevention of epidemics in small towns and in rural districts, and the first two or three chapters are profitably devoted to an interesting sketch of the epidemiology of the principal infectious diseases of this country. He then proceeds to the discussion of the various preventive measures, dismissing some very briefly, while others are considered in much greater detail. The chapters which deal with hospitals for infectious diseases are among the most instructive

and valuable, the author's practical experience having here been turned to good account. We are glad to see that he insists upon the use of the expression "isolation hospitals" for these institutions, in place of the repellent alternatives of "fever hospitals" and "infectious hospitals," which were becoming generally adopted when Lord Thring's excellent and timely Act of 1893 came to the rescue. The necessity for such hospitals is clearly and forcibly explained, and the remarks upon their construction and management are full of practical suggestions. In this part of the work Dr. McNeill seems to have had in view the position of Scotch rather than English authorities, for we find no mention of the Isolation Hospitals Act, nor any reference to the stern veto of the Local Government Board upon the establishment of smallpox wards anywhere near to blocks in which cases of other infectious diseases are treated. On the contrary, he speaks of the administrative serving the whole hospital, "excepting, perhaps, when smallpox is isolated"; and the burning question of the aerial diffusion of smallpox, the great difficulty in the way of authorities who have to satisfy the Local Government Board as to hospital sites, is passed over in silence. With regard to the removal of patients over long distances, the author sums up in favour of the view now generally held, that with proper ambulances and care the great majority of cases of infectious disease may be conveyed for considerable distances without risk. He quotes useful data and the opinions of several high authorities upon this point, and among them Dr. Gayton's warning that enteric fever cases should be moved as short a distance as possible. In an appendix are given the plans, with particulars as to cost, of a number of typical isolation hospitals. In England local authorities who have provided hospitals under the Public Health Act of 1875 have power to charge patients for maintenance, and many such institutions are rendered almost useless by the unwise exercise of this right. In Scotland, Dr. McNeill tells us, there is no such power, and the expense is borne by the public. This is as it should be, and Lord Thring's Act will by degrees bring English hospitals up to the Scottish level in this respect. The chapter on disinfection is good, but too short, and is followed by a very serviceable dissertation upon the management of isolation hospitals, with codes of regulations for ambulance attendants and others, based upon the rules of the Metropolitan Asylums Board. Notwithstanding some omissions Dr. McNeill's manual is a welcome and needed addition to the literature of the subject, and may safely be recommended to those whose duty it is to provide, maintain, or direct hospitals of this kind.

Abstracts from Foreign Journals.

MEDICINE.

Vicarious menstruation through the lungs and its relation to tuberculosis (*Ueber vicaricende Menstruation durch die Lungen und ihre Beziehung zur Tuberculose*).—DR. KÖBER (*Berlin. klin. Wochenschr.*, No. 2, 1895).—A case is related by Köber which shows that behind what appears to be a true form of vicarious menstruation there may lurk a latent tuberculosis. It is, of course, well known that many forms of hæmorrhage from the respiratory passages are frequently attributed to vicarious menstruation even when they have no relation to the period of the onset of that function and graver disease is overlooked; and the following observation points to still greater care being necessary when dealing with a case that appears to be genuine vicarious menstruation. The patient was eighteen years old, had never suffered from any illness, and had menstruated regularly for two years. The family history disclosed that a brother had suffered from hæmoptysis and a sister died of acute tuberculosis. The patient was well nourished and tall, and was quite well until February 10th. On that day the period set in scantily, and only for some hours, to be replaced by a very copious hæmoptysis. This recurred, in spite of treatment, during the next day and the day following, when the patient became very sick and had a continuous feeling of nausea. With the onset of this the bleeding ceased. In the lungs there was slight dulness over the bases behind, and the breathing was harsh and partly bronchial. After three or four days the moderate rise of temperature which was present disappeared, and the local signs cleared up. In about ten days the patient had quite recovered, and nothing could be made out in the chest. Examination for tubercle bacilli in the sputum had been negative. Four weeks after the commencement of this attack, when the onset of menstruation was expected, the patient was again seized with hæmoptysis, occurring in three bouts, which ceased after nausea and sickness came on. The local conditions were very similar to the former attack, and cleared as before, leaving the patient weak and with a slight cough. Several examinations were made for tubercle bacilli, but none were found. As the menses remained in abeyance on

the two last occasions, being replaced by hæmorrhage from the lung, a definite relationship between them was suspected and a not unfavourable prognosis entertained. Every care was, however, taken of the patient; but signs of an apical catarrh on the right lung began to show themselves. Local measures were tried to encourage the re-establishment of the period, and the girl took sitz baths, injections, etc., for several days beforehand. Notwithstanding, it did not set in, but, in its place, as before, an attack of bloodspitting, this time slight. In a similar way this was cut short by nausea and vomiting. The inflammatory attack in the bases of the lungs again went through its former course and cleared up. The cough, however, was worse, the general condition deteriorated, and the disease at the right apex rapidly extended. High fever, night sweats, diarrhoea, etc., were precursors of the fatal result which took place in June. Although no tubercle bacilli were ever found in the sputum, Köber had no doubt of the existence of acute tuberculosis. This case illustrates the advent of pulmonary hæmorrhage due to a fatal disease in the place of the hitherto regular menstrual function, and is an example of vicarious menstruation through a disposition to lung bleeding induced by the tuberculous poison. The patient was, in the best of health, surprised by this hæmorrhage at a time when disease in the chest was not even suspected, and the case teaches a more careful prognosis in vicarious hæmoptysis even when other symptoms are absent, as it may be the expression of an early stage of tuberculous disease. Köber further calls attention to the influence that nausea and sickness has in arresting hæmoptysis. On three occasions in this patient nothing had any effect until vomiting set in, when the bleeding was arrested, and he suggests the administration of remedies which induce nausea in the treatment of obstinate and copious hæmoptyses. It is an old form of treatment that was much used by Graves and Trousseau. The former employed ipecacuanha root, in doses given repeatedly until nausea set in; while the latter gave it in large doses sufficient to establish vomiting. This treatment has been lost sight of to a large extent in modern therapeutics, and Köber warmly advocates its efficacy in severe and persistent cases of bleeding from the lungs.

The effects of warm douches, massage, and friction upon the expansion of the lungs.—DOUGLAS GRAHAM, M.D. (*Boston Medical and Surgical Journal*, Dec. 6th, 1894).—In an article in the *Revue d'Hygiène Thérapeutique* for July, 1894, Dr. J. Nicolas showed that the warm douche alone produces greater pulmonary expansion than massage

does alone, and in this paper Dr. Graham shows that the combination of the two methods is still more effectual. The experiments were carried out on a large number of patients suffering from chronic bronchitis, asthma, and emphysema at the thermal station of Mont-Dore, and while the basis of the treatment consisted in inhalation of vapours and imbibition of waters, the warm douches were found valuable preliminary adjuncts. It was found both by auscultation and by the spirometer that the expansion of the chest was increased after the warm douches, and an average result of a number of cases showed an increase of from 200-300 cubic centimetres (12-18 cubic inches). Dr. Graham thinks the expansion may be due to three causes:—(1) Reflex action which the douche, by its warmth and strength of projection, determines upon the respiratory nerve centres, thus causing decrease of dyspnoea; (2) absorption by the lungs of the vapour and of the carbonic acid gas which are set free from the mineral water when the column of liquid is broken against the chest—the vapour and carbonic acid calm the bronchial spasm and so facilitate entrance of air into the chest; (3) the massage which the douche exerts on the muscles of the thorax, exciting their contractility, and to this cause the increase of expansion is ascribed. In order to produce its best effect the following conditions of temperature, pressure, and duration are recommended:—The temperature ought to be about 38° C. (100° F.); the water should be projected in a horizontal jet or vertical column, but not in the form of a spray, which lacks force. The pressure should be of five to seven metres, and the duration from seven to ten minutes. The increase of respiration usually lasts nearly an hour, and, without claiming any actual cure, cases of emphysema are said to be very greatly benefited by the addition of the douches to the other mode of treatment.

The hydriatic and mechanical treatment of cardiac affections (*Zur hydriatischen und mechanischen Therapie der Herz-Krankheiten*).—OTTO POSPISCHIL (*Blätter für klinische Hydrotherapie*, December, 1894).—The author refers to a case (*ibid.* Nov. 8th, 1891) treated purely on these lines, and now contributes a similar one in which the physical treatment was assisted by the use of drugs. The patient was in a very advanced condition, and his case was complicated by hydrothorax, ascites, anasarca, enlarged liver, suppression of urine, albuminuria, and Cheyne-Stokes breathing. The patient suffered from dyspnoea and was unable to walk, and there was no reaction to digitalis or strophanthus. Sphygmo-

graphic pulse curves are reproduced, showing the heart's action prior to, during, and after the mechanical applications to the præcordial area, the heart's action being slowed though increased in intensity. The improvement produced warranted special gymnastic exercises and massage, which again produced a marked effect upon the pulse curve. Two weeks later the patient was able to quit his bed, the limbs being wrapped in flannel bandages, and other special measures of the same nature being resorted to.

SURGERY.

The treatment of fractures by massage and early movements.—Several papers have appeared lately dealing with the treatment of fractures by massage and early active movement of the affected parts, and an excellent leading article giving a summary of the three most important of these was published in *La Presse Médicale* of Jan. 26th, 1895. Formerly the essential point in the treatment of fractures was considered to be the prolonged immobility of the parts; but if the methods here advocated are really satisfactory, an enormous advance will have been made towards diminishing the length of treatment and lessening the subsequent impairment of function so often experienced after a fracture, even when treated in the most approved fashion by the old plan.

LANDERER, in his paper, "Ueber neuere Methoden der Fracturbehandlung" (*München. med. Wochenschrift*, Dec. 11th, 1894), gives full details of his methods of treating many different forms of fracture. In cases with but little tendency to displacement the limb is immobilised only for a few days, at the end of which time the apparatus is removed and massage and passive movements are commenced. Where, however, the fracture is oblique and a great tendency to displacement exists, and also in most fractures of the lower extremity, the apparatus is retained for a few weeks, whilst massage and passive movements are commenced at the end of three or four days. The massage employed is of the usual type, including compression, friction from centre to periphery, percussion and kneading of the muscles, etc. Fracture of the patella, for example, is treated by immobilising the fragments by adhesive plaster, the limb being placed on a back splint. Massage twice daily is commenced on the second day, the patient, with his splint on, being allowed to get up on the sixth day, and to walk about, with the assistance of a stick, at the end of the second week. Firm fibrous union is obtained by this means, and no atrophy of the quadriceps follows. Again, in malleolar fractures the foot is kept immovable for

four or five days in a position of talipes equinus, which is replaced then by a flannel and net support. Massage is commenced on the tenth or twelfth day, and the patient is able to walk about without support at the end of the second week.

LUCAS-CHAMPIONNIÈRE ("Traitement des Fractures de l'extrémité supérieure de l'Humérus par le Massage," *Journ. de Méd. et de Chirurg. Pratiques*, Sept. 25th, 1894) discusses the treatment of fractures of the upper end of the humerus by massage and early mobility. He considers fractures of the anatomical neck rather in the light of sprains than of serious fractures, the hæmorrhage and swelling being the most important features, whilst the tendency to rigidity is the most troublesome result. No apparatus is employed beyond applying a sling for two or three days, whilst massage and passive movements are commenced immediately, and the patient is encouraged to use such active movements as are possible. The author considers that the support given by the clothes is quite sufficient to prevent fatigue and pain being noticed. For fractures of the surgical neck he recommends that the deformity, if considerable, should be reduced under chloroform and the first application of massage then undertaken. A pad is placed in the axilla and a sling applied. Sufficient callus is thrown out to prevent any tendency to subsequent want of union if the limb is not moved too violently. Daily massage is employed after the fourth or fifth day, and the apparatus discarded at the end of about twelve days. Lucas-Championnière concludes by remarking that since adopting this plan of treatment fractures which formerly were considered by him to be of the gravest character, especially when occurring in old people, have now been transformed into nearly benign traumas, from which an almost perfect recovery may be expected.

ELLBOGEN ("Ueber die Behandl. des Knochen-bruche der Unter- und Oberschenkels," *Prag. med. Wochenschrift*, Nov. 8th and 15th, 1894) deals with the treatment of fractures of the lower extremity by absolute immobilisation, the patient being allowed to walk about at the end of a short time. Whether it is better than treatment by massage is doubtful, but the great value claimed for it is that patients can be allowed out of hospital at the end of a very few days. The plan is by no means a new one, having been recognised as far back as 1833, but the importance of it has only quite recently been demonstrated. Thus in the case of fracture of the leg, after reducing it and cleansing and greasing the skin, a muslin bandage, the meshes of which are filled with plaster-of-Paris, is wound round the limb, commencing at the toes and working up to the upper part of the thigh if the fracture is in the upper part

of the leg, but stopping below the knee if situated in the lower part. Folds and reverses are most carefully avoided, the bandage being cut where necessary. Three steel plates, one centimetre wide and two millimetres thick, are then applied to the outer, inner, and posterior aspects of the limb, reaching down as far as the malleoli laterally and to the insertion of the tendo Achillis behind. These are then covered over with a plaster bandage, so that when dry the whole limb is securely and firmly encased in plaster-of-Paris. The patient is kept in bed for a day or two till the appliance is quite firm, and then allowed to get up and walk about, with crutches at first and afterwards without them. Possibly the apparatus may need reapplication at the end of eight or ten days; and if so, advantage should be taken of the exposure of the limb to massage it. Should any swelling of the toes appear, all that is needed is to split the casing along the sole of the foot and to suspend the limb for a day or two. When the fracture involves a joint, massage is first applied, and the limb is not encased in plaster for a few days. In compound fractures the wound is dressed and bandaged and the plaster subsequently applied, a window being left through which it may be dressed later on. In dealing with fracture of the thigh Gussenbauer reduces the deformity and keeps the patient in bed with extension by weight and pulley for some days; a plaster bandage is then applied, reaching from the toes to the tuber ischii. Strong iron-wire stays are then placed around the leg, encircling it above and below and running down its lateral aspects; these are then incorporated into the appliance by another firm layer of plaster. The patient is kept in bed for a day or two till the mass has become solid, and then allowed to get about with the aid of crutches for a time.

Extirpation of the larynx (*Extirpation du larynx. Prothèse laryngo-pharyngée*).—PÉAN (Communication to the Académie de Médecine, Jan. 22nd, 1895; reported in the *Presse Médicale*, Jan. 26th, 1895).—A patient was shown from whom M. Péan had removed the larynx and part of the œsophagus for a cancerous tumour, diagnosed by laryngoscopic examination. Although apparently limited to the left side, it was found that it had extended to the other side, and had also invaded the upper part of the œsophagus, whilst disease was found above the larynx, involving the hyoid bone and base of the tongue. The whole mass was removed, and, to compensate for such extensive loss of substance, the œsophagus was drawn up and stitched to the skin in the upper angle of the wound, the trachea, with a cannula inserted in it, being also secured by suture to the skin below. An artificial larynx

was supplied, which not only enabled the patient to swallow, but also allowed of the passage of air inspired through the nose to the trachea. The following conclusions were drawn from the case :—(1) That it is impossible to be certain prior to operation of the extent of the disease where no subjective symptoms are present; (2) that the surgeon must never promise beforehand to limit the operation to removal of only a part of the larynx; (3) that most extensive operations, including even the removal of the hyoid bone and base of the tongue, can be undertaken with safety and success; (4) that, after such operations, important modifications of the anatomy of the parts operated on always follow, the abnormal openings of the trachea and œsophagus being raised, and the epiglottis and root of the tongue sinking; (5) that, thanks to suitable mechanical appliances, the functions of the parts can be to a large extent restored, even after most extensive operations.

External œsophagotomy for a foreign body in the thoracic portion of the œsophagus (*Oesophagotomie externe pour corps étranger de l'œsophage - portion thoracique; résultats éloignés*). — MICHEL GANDOLPHE (*Lyon Médical*, Jan 20th, 1895).—This paper is written apropos of a successful case of removal of a foreign body from the lower portion of the œsophagus. It occurred in a lunatic, aged forty-seven years, who swallowed a pebble on the plea of relieving his thirst; neither solids nor fluids could subsequently pass. Comparatively little inconvenience was experienced, and the patient was able to stand considerable manipulation in the attempts made to remove the foreign body from the mouth. On the fourth day œsophagotomy was undertaken, the incision being situated as usual on the left side of the neck, and along the anterior border of the sterno-mastoid muscle. The fasciæ and muscles having been divided, the left lobe of the thyroid body, which was somewhat enlarged, was displaced, and the inferior thyroid artery divided between ligatures. The œsophagus was readily recognised behind the trachea, being of a greyish-white colour, and the foreign body was easily felt behind the sternal notch. The œsophagus was opened just above the obstruction, and the pebble grasped by forceps. These slipped off two or three times, but finally a successful result was attained. The mucous membrane was intensely injected, and even a few drops of pus were observed. The pebble was greyish-black in colour, very hard, flattened, and with the edges rounded and blunt. It was trapezoidal in form, measuring 4·5 by 3 centimetres, and being 13 millimetres thick. No suture was

placed in the œsophagus, but a stomach tube was passed through the wound, which was stuffed around it with iodoform gauze. The patient was fed by the tube thrice daily, and rapidly progressed to convalescence, being discharged from the hospital on the seventeenth day with the tube still *in situ*. On his return to the asylum it was removed, nourishment being administered through a tube passed through the nose for another fortnight, when the patient was allowed to swallow naturally. Twenty months later the patient was again seen, and deglutition was perfectly normal. In discussing the case the author expressed his surprise at the fact that patients who have been dealt with in this way do not subsequently suffer from contraction of the œsophagus. In 142 cases, of which 110 recovered, no mention is made of this sequela, and hence it is inferred, and rightly so, that it did not occur, and this even after two operations on the same individual, as in cases recorded by Krönlein and Billroth. The enlargement of the thyroid body is also stated to be a constant feature in these cases, but always disappears after operation. The writer then proceeds to discuss the different situations in which foreign bodies are found, and the treatment appropriate to each. According to observations made by Gaillard and Richardson, the average distance from the teeth to the cardiac orifice is 37 cms. (nearly 15 inches) in females, of which 18.5 cms. (7.4 inches) is extra-thoracic; whilst in males the whole distance is about 40 cms. (16 inches), 20 cms. being supra-sternal. The symptoms and indications for treatment for foreign bodies lodged in the cervical portion of the œsophagus are well known, whilst little has been written concerning those found lower down. Gandolphe gives a *résumé* of a thesis written by one of his pupils, Gaillard, on this subject, the facts given being based on twenty-six cases which had been subjected to œsophagotomy with but four deaths. In two, the majority, the impaction occurred within 30 cms. (12 inches) of the teeth, and under these circumstances œsophagotomy may always be attempted if the foreign body is giving rise to serious or unpleasant symptoms. Occasionally it will remain perfectly harmless, and then should be left alone. Extraction is considerably assisted by the fact that the œsophagus is movable to a considerable degree in a vertical direction, enabling the surgeon to pull it upwards. When, however, the site of impaction is further than 30 cms. from the teeth, gastrotomy is recommended as the best treatment, the hand being inserted if necessary into the stomach, and the cardiac orifice cautiously dilated so as to allow the foreign body to be removed, a manœuvre sometimes assisted by passing an œsophageal sound from the mouth.

Removal of tubercular pelvic glands (*Ueber die Ex-tirpation tuberculösen Bechendrüsen*).—SPRENGEL (Dresden), (*Jahresbericht Gesellschaft f. Natur u. Heilkunde*, 1894).—The author relates three cases bearing on this subject. A woman, aged 23, who six months previously had a sarcoma removed from the buttock, presented herself with a firm growth which lay over the large vessels and sent a process into the pelvis. Nothing could be felt from the rectum or the vagina. Extirpation was undertaken at the patient's urgent request. The superficial part of the growth was first removed, but the deeper part was found to be intimately adherent to the external iliac vessels. The peritoneum was stripped off, and these vessels ligatured above and below the seat of adhesion of the growth, the remainder of which, with $2\frac{1}{2}$ in. of the vessels, was removed. After this other glands higher up along the iliac vessels and deeper in the pelvis were removed. The wound was partly packed with gauze. The patient did extremely well as far as the local condition was concerned. There was no fever. The circulation in the limb was fairly well restored in the evening of the same day. There was only a small granulating wound when the patient died five weeks later of cerebral metastases. The success of the bold local measures taken in this case encouraged the author to operate on tubercular glands in the pelvis. The first case of this kind was that of a girl aged four years. In the right groin was a cluster of swollen and partly softened glands which were continuous with a second mass within the pelvis. A longitudinal incision, crossed at its upper end by a transverse incision parallel to Poupart's ligament, was made, and after dividing the soft parts and raising the peritoneum, the mass of glands was separated from the external iliac vessels and removed. The whole of the vertical and some of the horizontal incision were closed, and the wound was then packed with gauze. The child recovered rapidly, the wound closing in the whole of its length. The patient when last seen some months later, was well. Another case was that of a girl, aged ten, who had suffered from necrosis at the lower end of the left femur, for which sequestrotomy was done successfully. Nearly a year after her discharge from the hospital she returned with a tumour occupying the left groin and extending into the pelvis. The same operation as in the preceding case was done, and with an equally good result. The writer describes the *technique* of the operation thus:—(1) Longitudinal incision over the femoral glands which are removed, and thus the femoral vessels are exposed up to Poupart's ligament. (2) Division of Poupart's ligament; this gives complete access to the deeper parts. (3) Transverse incision along Poupart's ligament and

exposure of the reflection of the peritoneum. (4) Peeling off the peritoneum from the large vessels and glands. (5) Extirpation of the glands whilst the point of division of the common iliac artery is controlled by pressure. (6) Treatment of the wound by plugging after partial suture.

OBSTETRICS.

The employment of glycerine for inducing labour (*Sull' uso della glicerina allo scopo di provocare il parto*). P. L. FERRARI (*Lo Sperimentale*, Dec. 21st, 1894).—The author, in the first place, refers to the recent observations on this subject by Pelzer and Pfannenstiel, and, after giving a short outline of the cases published by Clifton, Simpson, Jennet, Müller, and the two aforementioned, proceeds to describe the result of his own experience. A woman, aged thirty-seven, had been pregnant ten times. Thrice she aborted, and none of the other children lived more than a few days, some having been extracted by instruments. Being desirous of having a living child, induction of labour at the beginning of the eighth month was suggested, and for this purpose she came into hospital. Vertex presentation was diagnosed, and cicatrices were felt involving the uterus. Moreover, the pelvis was narrowed as the result of rickets. As during the course of several days only slight pains were induced through douches and the insertion of a catheter, glycerine was suggested. Ten cubic centimetres of the sterilised liquid were carefully injected and the operation was immediately followed by general malaise, the predominant symptoms being præcordial pain, rigors, cyanosis, dyspnoea, and a small pulse. While persistent treatment led to some alleviation, nausea, diarrhoea, and hæmaturia set in. The foetal heart increased from 130 to 160. Towards the evening the patient was somewhat better; but the foetal heart was inaudible and uterine contractions intermittent, and dilatation of the os was very slow. Dilatation by colpeurinter was successful, and the child, being dead, was removed after embryotomy. After delivery the patient grew worse, and a swelling was felt in the right iliac fossa. She soon succumbed, and the autopsy revealed parenchymatous nephritis and intrapelvic hæmorrhage. While reverting to the published cases, the author remarks that in the three cases where nephritis existed the issue was fatal. Ferrari has under the microscope observed the deleterious effects of glycerine upon the red corpuscles, and confirmed the same by experiments on animals. The subcutaneous injection of the drug induced hæmoglobinuria, anæmia, and nephritis, and the author points out that the foetus is liable to the same dangers

as the mother, either from glycerine absorbed, or from excessive uterine contractions. He concludes: (1) That glycerine injected into the uterus does not possess a constant and reliable action, nor does it produce a certain result. (2) That it is dangerous owing to the changes which it produces in the blood and kidneys, and should on no account be used when the latter are diseased. (3) Death of the foetus also may result.

Suture of the torn cervix uteri immediately after labour.

DR. WILLIAM R. PRYOR (*New York Medical Journal*, Jan. 19th, 1895).—A paper on this subject was read before the Society of Alumni of Bellevue Hospital. The author lays it down as a rule that in severe and alarming hæmorrhage from the cervix, as a consequence of a deep cervical laceration, immediate arrest by suture or ligature is required. His paper is devoted to the consideration of whether any other indication *post-partum* demands immediate closure of the torn cervix. He first analyses the statement that *post-partum* hæmorrhage from the body of the uterus is prone to occur with severe and fresh cervical tears due to lack of contractile power in the uterine muscle. He disproves it (1) by showing that the mere cervical tear does not produce *post-partum* hæmorrhage, but that it is due to a bleeding from the cervix robbing the uterine muscle of blood, or more often it is the result of fatigue of the uterine muscle and paralysis of the cervical ganglia, upon whose influence the contraction of the uterus largely depends. (2) Women who have old and very marked lacerations are less liable to *post-partum* hæmorrhage after subsequent labours than those in whom the cervix is untorn. (3) *Post-partum* hæmorrhage is not a feature of labours in which it is necessary to resort to Dührssen's incisions. (4) It is impossible in many cases of laceration to ascertain where cervix ends and vaginal wall commences, and hence to be certain where to introduce sutures. *Secondly*, the theory that subinvolution frequently and immediately results from lacerations of the cervix is considered untenable. In the author's experience he has met with more cases of subinvolution without tears than with them. *Thirdly*, the question of sepsis must be considered—whether it is justifiable to subject the woman to the risk of the introduction of septic matter during the performance of the operation. The liability of an open torn cervix to become infected is a question difficult of solution. In a labour which has been conducted on antiseptic principles, the cervical rent might heal up perfectly without suture. If, on the contrary, the labour has been a "filthy" one, the open wound will only act

as a means of free entry into the system of septic germs. The author shows by two drawings (reproduced from Webster and Stratz) that the raw edges of a cervical tear are brought naturally into apposition by means of the two forces—atmospheric pressure and intra-abdominal pressure—and that a carefully made vaginal examination will further prove this. He therefore concludes that there is but one indication for immediate repair of the torn cervix—hæmorrhage. In the discussion which followed, the remarks of the author were opposed almost *in toto* by the various speakers, and primary trachelorrhaphy was strongly advocated.

The treatment of purulent infection in recently delivered women (*Du traitement de l'infection purulente des nouvelles accouchées*).—PROFESSOR TARNIER (*Journal de Médecine de Paris*, Jan. 6th, 1895).—Tarnier points out that what he calls purulent infection is caused by micro-organisms, the most important of which are the streptococcus and staphylococcus. These organisms, having penetrated into the uterine cavity, multiply and invade first the mucous membrane and then the deeper parts, and, finally, by means of the lymphatics and veins, are carried to all parts of the body. Metastatic abscesses form, and the patient nearly always dies. Inasmuch as it is impossible to destroy the microbes when they have once gained entry into the blood, rigid antiseptic precautions are necessary as a prophylactic; and it is noteworthy that, among other precautions, Tarnier recommends that a single intra-uterine douche of iodine and water be given to all women immediately after delivery is completed. Infection may take place through a wound of the vulva or even through a fissure of the nipple, so that in any case where symptoms indicative of infection occur an examination of these parts should be made. If no lesion be found in these parts, then it may be assumed that the infection has taken place through the uterine cavity, and therefore the interior of the uterus should be washed out with iodine and water. If the temperature keeps up in spite of this instrument, the microbes must have penetrated more deeply, and it will, under these circumstances, be necessary to have recourse to a method of treatment which French authors describe as *écouvillonnage*. This consists in scrubbing out the interior of the uterus with a brush similar to those used for cleansing bottles or test-tubes. If this fails, the curette must be used, bearing in mind that unless care is exercised the soft uterine tissue may be perforated by the instrument. If the microbes have, however, gained entrance into the blood-stream, the temperature will remain high in spite of all these efforts at

local treatment. The chief aim now will be to maintain the patient's strength by nourishing food and alcohol, so as best to enable the tissues to struggle with and, if possible, conquer the microbes. Quinine should be given internally, 15 grains being the average quantity per diem, one half being taken in the morning and the other half at night. Though it may occasionally be necessary to administer more than this, the maximum amount given should never exceed 30 grains in a day. Speaking of the cold-bath treatment, he considers that it is only applicable to early cases where the diagnosis is not yet clear; and in such cases he prefers wrapping the patient in a sheet wrung out in cold water to actual immersion. Cold baths are absolutely useless in cases of general purulent infection. In conclusion, he discusses a method of treatment advocated by Fochier, which consists in producing abscesses artificially by the subcutaneous injection of oil of turpentine. The abscess, when formed, must not be opened. The theory of this method of treatment is that by means of the abscesses, which form spontaneously in cases of purulent infection, the microbes are got rid of. To aid, therefore, in the elimination of the microbes, abscesses may be produced artificially as described above. Tarnier himself, however, has but little faith in this method.

On the prophylactic treatment of ophthalmia neonatorum (*Du traitement prophylactique de l'ophtalmie des nouveau-nés par le nitrate d'argent en solution faible à 1 pour 150*).—P. BUDIN (*Le Progrès Médical*, Jan. 19th, 1895).—Credé in 1881 published a paper on the prophylaxis of ophthalmia in newly-born children, and the method he advocated was the instillation into the eyes of a drop of a 2 per cent. solution of nitrate of silver. His statistics proved without doubt the immense value of this plan, and there is no question that it is thoroughly efficacious, but, unfortunately, it sometimes causes a considerable amount of swelling of the eyelids. Nothing seems to answer so well as nitrate of silver, so that Budin has recently made experiments with weaker solutions of the same substance. Instead of using a solution of 1 in 50 as advised by Credé, he employs a solution of 1 in 150, which has the great advantage of causing no irritation or swelling of the lids. He has watched the results of this method in 2,004 cases, and among all these there have been only two cases of purulent ophthalmia. In one of these cases, owing to an oversight, the prophylactic solution had not been used, and in the other the ophthalmia which showed itself on the second day was cured by the eighth. All the above cases occurred in hospital practice, but

he states that he has had equally good results in private practice from the same method of treatment. The occurrence of purulent ophthalmia in the proportion of 1 to 1,000 cases shows that the employment of a solution of nitrate of silver of the strength described above is quite as efficient as the stronger solution recommended by Credé, and, moreover, is free from the disadvantages possessed by the latter. The further precaution of irrigating the mother's vagina at the commencement of labour with a solution of perchloride of mercury 1 in 4,000 should not be neglected.

GYNECOLOGY.

The endometritis fœtida of aged women (*Endométrite Fétide des Femmes Agées*).—GABRIEL MAURANGE (*La Presse Médicale*, Jan. 26th, 1895, p. 26).—The author thinks that the pathology of this disease is still very uncertain. Some cases may be due to recurrence of simple endometritis of earlier life, or it may in others be looked upon as the result of a necrotic process accompanying the elimination of fibromyomata from the uterus. LEVRAT (*Prov. Méd.*, Oct. 17th, 1891), finding the disease complicating a cardiac affection in three women aged respectively sixty-two, sixty-five, and sixty-seven, considered that the two conditions might be allied, and he therefore gave it the name of *métrite putride cardio-sénile*. FRITSCH (*Handbuch f. Frauenkrankheiten*, Bd. i., S. 990) denies this and calls it atrophic endometritis (*Die atrophisirende E.*); he is supported by PATRU in a more recent memoir (*Endométrite Purulente Sénile, ou Endométrite Atrophisante*). TOLOCHINOFF (*Archives de Tocologie*, 1883) has described a rare form of senile metritis characterised by vaginal irritation, a periodic evacuation of pus, emaciation, and a yellowish tinge of skin. The importance of making a diagnosis between this disease and primary cancer of the body cannot be too strongly insisted upon. The author gives three instances of this disorder, one occurring in his own practice. One case was well after two years had elapsed, another was lost sight of, and in the last no note was made. He concludes that the malady appears at varying periods (five—fourteen years) after the menopause, and attacks women who have borne children rather than nulliparæ. The history and symptoms of a case may be summarised as follows: At an indefinite period after the menopause a more or less abundant discharge appears; this is at first intermittent. The fluid is sometimes thick and purulent or pinkish in colour, and, in exceptional cases, of the consistence and appearance of blood; it is always extremely offensive. In addition there may be vomiting, rapid

emaciation, anxious and icteric facies, much like that observed in the later stages of cancer. There may be vague pains, somewhat like those observed in other uterine disorders. On examination signs of considerable vaginal irritation will be found, the cervix healthy, the uterus slightly enlarged but quite mobile; passage of the sound gives pain; on withdrawal of the instrument a small amount of sanguineous pus escapes from the uterus, which is very foetid. The mucous membrane is turgid and ulcerated in parts, and easily detached by the curette. Microscopically the disease does not differ essentially from chronic endometritis. It is rebellious to treatment. A strong application of glycerole of carbolic acid to the uterine interior is frequently beneficial, but thorough and deep curetting is the surest method of cure.

An intra-parenchymatous injection of alcohol in the treatment of cancer of the uterus (*Des Injections intra-parenchymateuses d'Alcool dans le Traitement du Cancer utérin inopérable*).—PROF. VULLIET, of Geneva (*Journal de Médecine de Paris*, Dec. 23rd, 1894).—The author commences this paper by acknowledging hysterectomy to be the greatest advance made in the treatment of uterine cancer, but here refers especially to those cases which are too far advanced for operative treatment when first discovered. Cases suitable for this method of treatment are divided into two groups: (1) Cases where hysterectomy is impracticable owing to the advanced stage of the disease; (2) Cases where, hysterectomy having been done, infiltration of the neighbouring tissues is suspected, or, still more, where a recurrence follows the radical operation. The treatment recommended by the author in these classes of cases is the injection of alcohol into the parenchymatous tissue of the new growth and its surrounding parts. He quotes four cases which were fairly treated by this method, and in all amelioration of the symptoms took place, those doing best which were treated most regularly; and one, a schoolmistress—although only treated five months in the year—was so well as to be able to continue her work. In all these four cases operative treatment had been pronounced impossible. *Mode of operating*: Before inserting the needle the cancerous surface must be well cleansed, so that the deeper parts may not be infected from the surface. The vagina, cervix, and new growth are all washed with a solution of soda followed by a solution of sublimate 1 in 1,000, all free fluid being then mopped up by tampons. No anæsthetic is usually necessary, and the genu-pectoral position is recommended as being most convenient for operating. Three or four aseptic Pravaz syringes are placed handy

and filled with absolute alcohol of the best quality. The injections are then made, the first in the centre of the growth and the following ones towards the periphery. In the scirrhus variety the needle at once penetrates tissue which can be injected; in the encephaloid variety a considerable bed of friable tissue must often be passed through before firm tissue is reached. If the entrance of the needle causes hæmorrhage, this must be arrested before the alcohol is injected, otherwise the blood will interfere with the action of the alcohol. After injection, each needle is left in place until all the injections are completed; this prevents the alcohol running back in the track of the needle, as it would do if the needle were immediately withdrawn. By this treatment the ulcers healed, granulations atrophied, vessels ceased to bleed, and secretions dried up, all these results being more certain and lasting longer than analogous ones obtained by cauterisation. No harm has in any case followed the treatment, but in one or two cases curious sensations all over the body were complained of, which, however, soon passed off. The mode of action is supposed to be due to the dehydrating action of the alcohol on the tissues, producing permanent histological changes resulting in the formation of connective tissue. This fibrous tissue, by its contraction, diminishes the nourishment of the growth and so leads to its retrogression.

The spa treatment for sterility in the female (*Brunnen- und Badecuren gegen weibliche Sterilität*).—E. HEINRICH KISCH (*Therapeutische Monatshefte*, Jan., 1895, p. 6).—After alluding to the ancient custom of resorting to certain baths in the treatment of sterility in women, the author cautions the physician first to exclude all possibility of the fault being on the husband's side. He is of opinion that the most frequent cause of sterility in the female lies in the exudations occurring after pelvio-peritonitis upon the peritoneal covering of the ovaries and tubes and the uterus itself, resulting in chronic adhesions and atresias. He refers the reader to his more complete work on the subject ("Die Sterilität des Weibes, ihre Ursachen und Behandlung"). These diseases may attack the virgin in her earliest youth, or in cases of one-child sterility after puerperal sepsis. He considers the next common causation of sterility to be due to constitutional disease and disturbances of nutrition—*e.g.* scrofula, anæmia, chlorosis, and excessive adiposity, which have a baneful influence upon the ovulation process. Certain structural changes in the uterus, such as chronic metritis, endometritis, a chronic catarrhal condition of the cervical mucous membrane, hypertrophy of the cervix, uterine displacements, and cervical stenosis, may

also be included. By means of certain balneo-therapeutic procedures, absorption of the exudation may be hastened and uterine enlargements reduced. These consist of drink- and bath-cures, general and local warm baths, sitz-baths, vaginal and uterine irrigations, fomentations and packings. Genital disorders may furthermore be treated by "derivatories," such as mineral waters given internally, producing an irritable condition of the mucous membrane of the intestine, with a resulting augmented secretion. In exudations after pelvioperitonitis the resulting adhesions produce so many uterine and ovarian displacements and distortions of the tubes that serious obstacles may easily be produced to the proper coming together of ovum and spermatozoa. For such cases the author recommends mud-iron baths (Elster, Franzensbad, Marienbad) and powerful brine-baths (Kreuznach, Münster, Hall, Ischl, Kösen, Reichenhall, Caunstadt, Elmen, Kreuth, Wittekind, Rehme, Nauheim, etc.). These baths must be used at a temperature of 36 to 40 degs. C. for twenty to thirty minutes, and their value will be much enhanced by hot vaginal injections and mud plasters. By consistent use of these remedies, absolute absorption of chronic exudations has, in the author's experience, frequently occurred. In cases of sterility where anæmia and chlorosis appear to be the main factors, the author advises the carbonic acid iron-waters of Boklet, Cudowa, Driburg, Pyrmont, Schwalbach, Elster, Franzensbad, Königswarth, St. Moritz, Steben, Spa, Reinerz, and Rippoldsau for internal use, in combination with the carbonic acid and chalybeate baths. He finds that this course leads to increase in the red blood-corpuscles and hæmoglobin of the blood, resulting in a reappearance and regulation of the menstrual flow. In sterile women of scrofulous habit a course of the already mentioned brine-baths is usually successful, especially if combined with the internal administration of an iodine-containing saline water (Hall, Krankenheil) or an arsenical mineral water, such as that of Levico or Roncigno. In profuse leucorrhœa, which is often the concomitant of a condition of total relaxation of the genital parts—*e.g.* a thin, relaxed uterine wall with dilated cavity, dilated and patulous vagina, flaccidity of the musculature of the pelvic floor—the author recommends the astringent sulphurous acid and iron waters of Alexisbad, Muskau, Ratzes, Parad, and Levico. These are also of great service in genital affections of gonorrhœal origin. If one finds well-marked obesity as the cause of sterility—and these cases are not infrequent—the energetic use of Glauber's salts (Marienbad, Tarasp), or the bitter waters of Friedrichshall, Saldschütz, Pullna, and Ofner, combined with careful anti-fat regimen, will speedily relieve

the amenorrhœa of some adipose women, and the scanty menstruation of others will become profuse. In vaginismus due to hyperæsthesia of the vulva, natural baths of chemically indifferent waters are most essential; they act through their somewhat high temperature, and produce a relaxation of the spasmodic contraction of the musculature about the vaginal inlet and the anal region (Schlangenbad, Landeck, Romerbad, Tobelbad, Tüffer, Wildbad, etc.).

Bicycling for women, from the standpoint of the Gynecologist.—DR. R. L. DICKINSON (*Amer. Journ. of Obstetrics*, Jan., 1895).—The writer enters fully into the advantages and difficulties attending this variety of exercise when indulged in by women. He first points out that the ways in which a female may obtain muscular exertion are very few: the gymnasium is attended by a certain sensation of sameness; dancing, which is indulged in during improper hours and in vitiated air, and, lasting over several hours, often results in over-fatigue; and, finally, horse exercise is too apt to develop one side of the body more than the other. He then compares the horse and the bicycle, and the sewing-machine and the bicycle, to the manifest disadvantage of each of the former. The effect of bicycling on the circulation will be that of any general exercise *plus* specialised supply and return flow of blood to the parts that do most of the work—*i.e.* the leg muscles. Hence there will be an increased rapidity of circulation in the pelvis; the pelvic vessels and muscles and whole of the pelvic floor will receive a well-defined stimulus and, by degrees, a permanently heightened tone from regular riding. The author gives, among others, two views of frozen sections of the pelvic organs, to show the way in which the uterus is swung between two bony points, as an indication of the importance of muscular vigour in the utero-sacral ligaments. He adds another to illustrate the varicose conditions of the valveless veins that may ensue from strain during waist constriction. From these he deduces the importance of assuming a proper and upright position in the act of riding, the laying aside of all stiff steels in the stays, and, finally, the wearing of suitable garments. It is suggested that the friction of the saddle may lead to sexual excitement; and, although the author is only aware of one instance, still he thinks that a proper arrangement of the saddle should be provided to prevent any possibility of contact with the clitoris. He gives eight cases in which the treatment by bicycle exercise was tried, and is sanguine of its future. He says that under proper conditions of costume and posture, with care that the exercise be graduated according to the patient's

powers, and that the existence of acute inflammatory conditions can be excluded, this form of exercise will probably show itself capable of large results as an agent in curing pelvic disorders, since it is one of the few exercises which attract women.

The bicycle as an ætiological factor in lesions of the perineal region. — FERRIA (*Gazzetta Medica di Torino*, Dec. 13th, 1894). — THEODORE ROUSING (*Hosp. Tidende*, Feb. 7th, 1894). — DE PEZZER (*Ann. de Malad. des Org. Gén. Urin.*, Jan., 1894). — These articles contribute remarks on the evils which can be produced in certain individuals where a considerable distance separates the tuberosities of the ischium, or predisposing factors exist. All agree that bicycling and the continuous pressure of the ordinary leather saddle on the soft parts may induce superficial hardness and rigidity of the labia majora, local pain, frequent micturition, and even exudation from the vulva. As regards the veins, some of these may become varicose, and hæmorrhoids may form, and the pressure on the nerves has produced prolonged anæsthesia. In the urethra a gonorrhœal inflammation has been re-awakened; peri-urethral abscess, urethral fistula, and finally rupture, have been observed on three occasions, the latter twice by jumping upon the saddle, and once by its breakdown. Ferria also dwells on the results of the continuous concussions produced by rough or uneven roads, persons without previous disposition being troubled by irritability of the bladder, tenesmus, etc. The injury produced is mainly ascribed to the elevation in the peak of the saddle, its non-resiliency, and narrowness at base. Pneumatic saddles of an improved shape are recommended by Ferria, who also insists on the necessity of a more upright posture and greater care, with less speed, when travelling on uneven roads.

OTOLOGY.

On eczema of the external auditory meatus (*De l'eczéma du conduit auditif externe*). — By DR. HERMET (*Journal de Médecine de Paris*, Jan. 27th, 1895). — This communication, made to the Société Médicale de l'Élysée, consists in a consideration of eczema of the external auditory meatus, a subject which has engaged the author's attention for some years. After commenting on its great frequency, he discusses its *ætiology*, stating that it is sometimes met with in this situation alone, no other evidences of the disease being present elsewhere in the body. It may occasionally arise from errors in diet, in one case being always brought on by eating crabs,

as also by taking a sea-water bath. The most common cause, perhaps, is the injudicious use of antiseptic douches for chronic otorrhœa, whilst the constant passage of pus from the tympanic cavity, especially if it has been retained for a time so as to allow of the development within it of staphylococci and other organisms, is very likely to lead to its development. Cold is also stated to give rise to it, but in such instances it originates in the pinna and spreads inwards. *Symptoms.*—The patients complain of itching in the meatus, with a sensation of heat and burning, whilst later on deafness may be induced if much swelling is present. The surface becomes red and injected, and in twenty-four hours a crop of vesicles appears, similar to those noticed in eczema elsewhere. The irritation produced thereby increases, leading the patient to scratch or rub the parts, and a serous discharge may be thus caused. Some of this exudation dries so as to form yellow or yellowish-red scabs, the latter colour being due to an admixture of blood. In other cases the parts become dry, and abundant epidermic scales are cast off. Several attacks usually follow one another, and considerable discomfort may be produced, whilst if the epidermis is abraded distinct pain may be experienced. When due to the use of antiseptic douches, the discontinuance of the irrigation suffices to produce a cure; in other cases warm applications, such as chamomile fomentations, are all that is needed. The most common complication is a boil. This is produced by the passage of infective pus over the inflamed parts, pyogenic organisms either being rubbed into the hair follicles by the patient's finger-nails, or spontaneously infecting an abraded surface. The usual phenomena of a boil are rapidly developed, and, owing to the confined space, may cause a good deal of pain. From the dissemination of the discharge a further crop of boils may be subsequently induced. Hermet recommends treating this condition by applying a swab of wool or gauze soaked in a 10 per cent. solution of nitrate of silver to the interior of the meatus. If suppuration has not already occurred, it may by this means be prevented; if pus is already present, the caustic action of the silver nitrate soon leads to its evacuation and a speedy cure. In either case, on removing the swab the interior of the meatus is found to be of a dark colour, which, however, disappears in a few days when the superficial epithelium desquamates.

A New Instrument for the Extraction of Foreign Bodies from the Ear.—STUART ELDRIDGE, M.D. (*Boston Medical and Surgical Journal*, Nov. 1, 1894).—The instrument was devised by the author to meet a case in which a rounded

quartz pebble lay in the meatus for several days close to the tympanum, and is applicable generally to similar foreign bodies, especially where they have formed for themselves a small cavity by absorption. He had tried unsuccessfully suction with a firm red rubber tube. To the end of a copper wire one and a half millimetres thick and sixteen centimetres ($6\frac{1}{4}$ in. long) was soldered, transversely, by its bottom, a shallow circular copper cup three millimetres in diameter and one deep. Over the wire passed a slender, closely-fitting bamboo tube, which had an angular handle seven centimetres long resting against the cup. The free end of the wire was coiled helically, and the cup, by the aid of heat, lined with sealing-wax. The ear was cleansed by syringing, first with water, then with alcohol, and dried thoroughly by a current of warm air. The cup was then firmly and gently applied against the pebble, and the helix heated with a spirit lamp until slight yielding indicated the melting of the wax. The instrument was held *in situ* for a few minutes, and then withdrawn with some trouble with the pebble firmly attached. Thorough cleansing and drying as indicated are essential. Messrs. Meyrowitz, 104, East 23rd Street, New York, supply the instrument with a cement more serviceable than ordinary sealing-wax.

Practical Notes.

ALFODI has noticed that infectious ulcers, which seem to be rebellious to all kinds of treatment, assume at once a healthy appearance and heal more quickly when bathed with a solution of 1 per cent. of sulphate of quinine than when washed with a solution of corrosive sublimate or dusted with iodoform. In the case of simple ulcers, the healing action of the sulphate of quinine is still more rapid.

PROFESSOR EWALD states (*Wien med. Presse*, No. 21, 1894) that the best material for a pleximeter is that which emits of itself the least sound. Hence, metallic pleximeters are not as suitable as those of ivory, horn, or hard rubber, though the best is the percussion of finger on finger. Yet those who percuss much are often unable to employ this method for various reasons. For years he has employed as a pleximeter a piece of ordinary rubber, such as is used in erasing. The piece is about five centimetres long, four in breadth, and five millimetres in thickness, such as is to be obtained in any stationer's store. As the percussion hammers are tipped with rubber, thus rubber strikes on rubber, and the peculiar sound of the instrument is eliminated. On account of its flexibility it is easily fitted to any irregularity of the thorax, and thus does away with the intervening layer of air, which renders it difficult for beginners to employ the ordinary hard and stiff pleximeter. It is of especial value in percussion of the supraclavicular fossæ and of the clavicle, which latter is not frequently enough practised, as it will reveal to one finer deviations in resistance in the upper portions of the chest. Here the pleximeter is bent around the clavicle like a ring. Another advantage is that it is easily obtained under most circumstances, in case one has forgotten one's own pleximeter. The only condition where it will leave one in the lurch is in determining the metallic sound of cavities in pneumothorax, etc., where percussion with the fingers also fails. Here any large-sized piece of money will be sufficient.

ANY case of epilepsy developing suddenly in a patient who has passed thirty-five years of age, and who gives no history of injury, Prof. Hare says, is almost invariably caused by syphilis.

DR. BOLLINGER, director of the Anatomico-Pathological Institute of Munich, asserts that it is very rare to find a normal heart and normal kidneys in an adult resident of that city. The reason for the kidney disease is the tax put upon these organs by the drinking of excessive amounts of beer, and the cardiac hypertrophy and degeneration are secondary lesions for the most part. Formerly the population of the city was recruited by accessions from the country, but the abuse of beer has spread now to the rural communities, so that this source of healthy new blood is cut off.

SEVERE stridulous laryngitis in infants depends, according to Prof. Huchard, on two conditions—an inflammation and a spasm of the larynx. It is not the inflammation, which may be slight or intense without increasing the gravity of the case, but it is the spasm which constitutes the danger. The emetics, compresses of very hot water, sinapisms to the lower limbs, internal administration of ether, are all untrustworthy and inefficient. The remedy is bromide of potassium, which must be given in large doses (for a child of four and a half years 60 to 70 grains per day). The surgical treatment is either intubation or tracheotomy.

A COMBINATION of salicylate of soda with an iron salt is frequently indicated in the treatment of rheumatism or rheumatoid arthritis, in which anæmia or other evidence of impaired nutrition is a distinct feature. It is particularly suitable for acute tonsillitis of rheumatic origin in anæmic subjects, and should be continued for some time after the acute stage is over. The following is recommended by Dr. S. Solis-Cohen :—

R Sodii Salicylatis, $\mathfrak{z}\text{iv}$.
Tinct. Ferri Perchloridi, $\mathfrak{z}\text{iv}$.
Acidi Citrici, grs. x.
Glycerini, $\mathfrak{z}\text{iss}$.
Ol. Gaultheriæ, $\mathfrak{m}\text{viii}$.
Liq. Ammon. Citratis, q.s. ad $\mathfrak{z}\text{iv}$.

M. Sig. Dose, one to two teaspoonfuls.

Dissolve the citric acid and sodium salicylate in the liquor ammonii citratis. To the glycerine add the tincture of iron chloride, and then mix the two solutions, finally adding the oil of gaultheria. One or two drachms of mucilage of acacia would be a valuable addition with which to emulsify the oil of gaultheria. In this prescription reaction takes place between the ferric chloride and sodium salicylate, resulting in

double decomposition, giving iron salicylate in the first solution. Care should be taken to keep the liquor ammonii citratis in slight excess, in order to have a perfectly clear solution of salicylate of iron. The ordinary dose in chronic cases in adults is a dessertspoonful four times a day. In acute cases the same dose is given every two hours until tinnitus is produced or decided amelioration has occurred, when the dose is diminished or the intervals between doses lengthened.

At the last Surgical Congress at Lyons, M. Le Dentu said it was not unusual for plaques of leucoplakia to become epitheliomatous. Not that it is a normal phase of the disease, but is sometimes induced by a tendency of leucoplakia to degeneration. Leucokeratosis should therefore be carefully watched for the development of papilloma or ulceration.

As a local application for leucoplakia Rosenberg recommends iodide of potassium. He employs a concentrated (*i.e.* 10 per cent.) solution, painting it on the affected points. With this treatment he has seen leucoplakia disappear in a few days, after lasting for seven years and resisting all the usual methods.

It should be borne in mind that every retro-pharyngeal swelling in a child is not necessarily an abscess. Lymphadenitis can occur in this situation as well as in the neck. Dr. Casselberry (Chicago) narrates a case where an infant of four months was threatened with asphyxia from a hard tumour projecting from the posterior pharyngeal wall in the middle line. Three punctures failed to evacuate pus, and tracheotomy was required. The tumour underwent gradual resolution without suppuration.

In flatulent dyspepsia :—

R Acid. Sulphurosi ʒj.
Tinct. Nucis. Vom. ʒij.
Tinct. Card. Comp. ʒss.
Aq. ad. ʒjv.

M.S. One teaspoonful in water after meals.

Or antiseptic and alkali mixtures may be given before food :—

R Creosoti mʒ.
Bismuth Carb. ʒij.
Mucilag. Acaciæ ʒv.

M.S. Mix well and give two teaspoonfuls in water about one hour before meals.

THE so-called "magic cream," used in various syphilitic eruptions, is composed thus:—

R Hydrargyri Ammon. ℥ss.
Zinci Oxid. ℥jss.

Mix and rub well with sufficient glycerine and a few drops of olive oil to make a cream.

ANOTHER form of antisymphilitic salve is prescribed in this way:—

R Ung. Hydrargyri Amm. ℥ss.
Ung. Zinci ℥jss.
Glycerini q. s.

To make a cream.

A WELL authenticated case of cure of a sarcoma by prolonged use of arsenious acid is reported in the *Semaine Médicale* (1894, p. ccciv.). The patient was a girl of 23 years, from whom a sarcoma had twice been extirpated at the head of the left fibula. It was as large as a small apple; and the glands of the groin and axilla on the same side were swollen. The disease recurred, and as the patient declined amputation Dr. A. Samter superficially curetted the growth—which proved to be a giant-celled sarcoma—and then prescribed arsenious acid, 1-25th of a grain in a pill; of these he gave up to ten daily. After nine months the inguinal and axillary glands had greatly diminished in size, and the wound, now only one-half of its original dimensions, presented but a few traces of neoplastic growth. The patient no longer felt any pain in the leg, which she could now use without difficulty. After another curetting and the continued use of arsenious acid for two whole years, a complete cure is reported. There were no more swollen glands, and the left knee-joint (which had been generally swollen) presented an absolutely natural aspect, there being only a small bay cavity, studded with granulations, in the head of the fibula. Microscopic examination showed that these granulations contained no trace of sarcomatous tissue. Other cases of considerable improvement with this drug have been reported, so that the report of this cure should at least encourage all practitioners to give arsenic a thorough trial in cases of sarcoma where operative treatment is not available.

ACCORDING to Professor Fournier, the first symptoms of locomotor ataxy may be classed as follows:—(1) Sign of

Westphal; (2) sign of Romberg; (3) the "stairs" sign; (4) crossing of the legs; (5) walking at the word of command; (6) standing on one leg.

(1) Westphal's sign is well known; it consists in the abolition of the patellar tendon reflex, and is present in two-thirds of the cases.

(2) Romberg's sign can be thus appreciated: The eye is an indirect regulator of motion; it helps to correct deviations in walking and maintains the equilibrium. When a patient is suspected of incipient ataxy, it will often suffice to make him close his eyes when in the erect position to verify the diagnosis. In a few instances his body will oscillate, and if the malady is somewhat advanced he will be in danger of falling.

(3) The "stairs" symptom. One of the first and most constant symptoms of incipient locomotor ataxy is the difficulty with which the patient will descend stairs. If questioned closely on the subject, he will say that at the very outset of his malady he was always afraid of falling when coming down stairs.

(4) The manner in which a patient crosses his legs is often significant. In the normal state a man when performing that act lifts one leg simply to the height necessary to pass it over the other, whereas in the affection under consideration he lifts it much higher than necessary, describing a large segment of a circle.

(5) Walking at the word of command. The patient seated is told to get up and walk instantly. After rising he will hesitate, as if he wanted to find his equilibrium before starting off. If while in motion he is told to stop short, his body, obeying the impulsion, inclines forward as if about to salute, or, on the contrary, jerks himself backward in order to resist the impulsion forward.

(6) The patient is asked to stand on one leg, at first with his eyes open, afterward closed. Although man is not made for this position, yet he can balance himself pretty firmly for a little while. The ataxic will experience a great deal of difficulty, and will instinctively call to his aid his other foot so as not to fall. If his eyes are closed he will not be able to stand one instant, and if not held he would fall heavily to the ground. Such are the symptoms of incipient locomotor ataxy. They will not be all present frequently, but they should be all sought for in order to avoid an error which might have grave consequences.

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SOME UNUSUAL CASES IN THE SURGERY OF THE BREAST.

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TUMOURS of the breast have always presented special interest both to the pathologist and to the surgeon. The pathologist finds the breast to be the seat of a richer variety of new formations than any other organ or part of the body. The surgeon finds the problems presented in the diagnosis of mammary tumours to be difficult and varied; and, in spite of the simplicity of the various operations performed upon the gland, very interesting and important therapeutical questions often arise. Even in so richly cultivated a field of surgical knowledge as this has long been some new facts may be met with, and it is hoped that this short series of cases may not be without some interest. The cases are grouped together, not on account of clinical or pathological affinity, nor to illustrate or enforce any thesis, but as examples of diseases of the breast—some of them cases of disease well known and frequently met with—which depart in some special way from the usual form of such diseases, or which present special and uncommon features of interest.

CASE 1.—*Adenoma of the breast; very rapid growth during pregnancy; operation in the eighth month of gestation.*—Mrs. G., aged thirty-five, the mother of four children, was admitted into the Middlesex Hospital, under my care, on

December 31st, 1894. Her family history was unimportant except that her father was said to have died at the age of seventy-six from cancer of the bladder. She stated that she had nursed all her children without any difficulty or complication until the last (fourth) occasion. This child died in September, 1893, at the age of four months, and on the cessation of lactation she noticed a small lump in the upper part of the right breast. This lump was painless and could be easily moved about—she attributed the lump to the breast having been squeezed by the nurse at the commencement of lactation. The lump remained quiescent and did not increase in size until August, 1894, when she noticed that it was growing, and since then it had steadily and very rapidly enlarged. Late in May, 1894, she had become pregnant again, so that the enlargement of the tumour was first noticed in the third month of gestation.

The patient presented all the usual signs of a woman at the beginning of the eighth month of pregnancy. The right breast was the seat of a tumour the size of a melon. This tumour occupied the upper half of the breast, was ovoid in outline, with a slightly uneven surface, and was soft and elastic in consistence. The skin was tightly stretched over it, but was nowhere incorporated with the growth, and the latter could be moved upon the mammary gland and over the pectoral muscle. The breast was small and flaccid, the nipple was well formed and surrounded by a very dark areola; milk could be easily expressed from the gland. The axillary lymphatic glands could be felt, but they were neither enlarged nor harder than normal. No other abnormal condition was observed.

On January 2nd, 1895, I operated, and removed the tumour through an incision over its centre; when the skin was divided the tumour was easily shelled out by the finger and was found not to be adherent to the mammary gland, which was, however, deeply indented by the growth. The tumour was solid, and weighed 33 oz.; on section it had the foliated appearance of fully developed mammary gland without fat; and a microscopic section prepared by the surgical registrar, Mr. Murray, showed it to be an example of a pure

glandular tumour—adenoma. The patient left the hospital with the wound healed on January 15th.

(For the above notes of this case I am indebted to my dresser, Mr. Ward.)

Pure adenoma of the breast, composed of a tissue closely resembling that of the mamma at the close of gestation, is a rare tumour. Mr. Raymond Johnson, in his recent lectures at the Royal College of Surgeons on "Tumours of the Breast," speaks of "pure adenoma, a growth admitted by all writers on the subject to be rare"; and S. W. Gross, writing in 1880, stated that he had only seen one case of this form of breast tumour, although he had examined four cases which had occurred in the practice of other surgeons; and in a table given in his work on "Tumours of the Mammary Gland," he records only two cases of adenoma among 649 consecutive cases of breast tumour.

Bryant, in his manual on "Diseases of the Breast," records two examples of this disease, but only one of these was in his own practice. It so happens that my own experience has been unusual, for I have removed three other undoubted instances of pure adenoma. In all of the four cases the section of the tumour rather closely resembled the pancreas to the naked eye, and the microscope showed them to be composed of acini lined with globular epithelium packed closely in a rather richly cellular stroma.

These tumours are believed to originate in an outlying lobule of the mamma, and the position of the one I have just recorded fully bears out this view: it lay superficial to the gland which it had hollowed out by its growth. In Mr. Bryant's case the tumour seemed clearly to spring from a lobule lying far out towards the axilla, and in the case of Mr. Ward's recorded by Mr. Bryant the tumour lay beneath, and quite separate from the breast. The fact that these tumours are not found in the breast, but at some part of its circumference, is the evidence on which this view of their origin is based, and my cases fully support it.

The most interesting feature of my case is the influence of the physiological activity of the mamma upon the growth of the tumour. The tumour was first noticed when lactation

was abruptly terminated at the fourth month, and from that time until the next pregnancy it remained entirely inactive, but from the end of the second month of a subsequent gestation it continuously and rapidly increased.

Although Gross spoke of the physiological type of this form of tumour as "a mamma preparing for lactation," he yet denied that pregnancy or lactation had any influence upon its increase. In the Path. Soc. Trans., 1885, Mr. D'Arcy Power has recorded a case of adenoma which was removed from the breast of a lady four months pregnant; the tumour had been noticed five months, and no mention is made of its comparative rate of growth before and after conception. In Mr. Bryant's case the tumour was first noticed during the early weeks of pregnancy (presumably), and although the account of its growth is very vague, I judge that its period of greatest activity corresponded to a second pregnancy.

These three cases certainly suggest that the stimulus of pregnancy may so influence an outlying detached mammary lobule as to start the development of an adenoma and lead to the rapid growth of such a tumour. Many cases occur quite apart from pregnancy and lactation, but it is interesting to note that out of eighteen cases collected by Gross not one was met with before puberty, and seventeen were observed between puberty and fifty years of age—the period of functional activity of the gland.

Although different opinions as to the nature of this tumour were expressed by those who saw the case with me, some thinking it cystic, and others a rapidly growing form of sarcoma or carcinoma, it appeared to me that the diagnosis of adenoma could be made with considerable confidence. In the first place, I could find no fluctuation in the swelling, and it felt to me solid throughout. This excluded any cystic formation with large cysts. I may add that no part of the tumour was tense and globular as cysts usually are. The freedom with which the tumour could be moved under the skin and over the pectoral walls negatived the view that it was an infective or infiltrating tumour of any kind. Arrived at this point, that the tumour was solid and not infiltrating or locally infective in character, it was easy to

take the last step in the diagnosis ; for the swelling was too soft for a fibroma, and its softness and fine lobulation, in which it so closely resembled the normal mamma, clearly marked it as an adenoma.

The question of treatment presented only one point of any difficulty. Removal of the tumour without injury to the breast was the only surgical measure to be recommended, and the only doubt was as to when this could be most satisfactorily done. To operate at once, in the eighth month of pregnancy, had the advantages of dealing with the tumour when it was smaller and of removing at once a source of anxiety ; and if the diagnosis were wrong, and the growth were really an infiltrating form of disease, its immediate removal was of great moment, with the view of preventing local and wider infection. On the other hand, the disadvantages of this course were obvious : the operation might excite uterine contractions and lead to the premature emptying of the uterus, while the confinement to bed, with restriction of the free movement of the ribs and one arm, might be a source of grave discomfort to the patient. This course, however, was decided on, in the belief that with due care premature birth would be obviated, that the patient's comfort would be secured if the dressing was not fixed on too firmly, and if the woman was allowed a greater freedom of movement than usual. If it had been decided to wait, the earliest time the operation could have been wisely attempted would have been about a month after the birth of the child. In the meantime the tumour would have increased in size, perhaps very much, under the more intense stimulus of lactation. To operate upon the breast during lactation is always to be avoided if possible, lest the function be arrested or acute mastitis be set up. To have postponed operation until after the baby was weaned had the grave disadvantage of leaving the rapidly growing tumour to attain a great size and become a serious detriment to the patient. The course decided on was amply justified by the happy result of the case.

CASE 2.—*Scirrhus of both mammae ; simultaneous excision of both breasts.*—E. G., a single woman fifty-eight years of age, was admitted into Middlesex Hospital, under my care,

on May 21st, 1894. In the lower and outer quadrant of the left breast was a smooth, oval, well-defined tumour about the size of a hen's egg; it was hard, somewhat elastic, and gave a sense of fluctuation near the nipple. Near the nipple it was firmly attached to the skin, and the nipple was slightly retracted and painful. In the left axilla there was a hard, freely movable gland the size of a large grape.

In the upper and inner segment of the right breast was an irregular nodular tumour the size of a pigeon's egg; it appeared to me to be freely movable over the pectoral fascia, in the breast and under the skin. The tumour was firm and elastic. In the axilla two small hardened glands could be felt. The history given by the patient was that the lump in the left breast was first noticed in September, 1893, but that it did not increase in size until February, 1894, when, after an attack of vomiting and diarrhoea, which left the patient very weak, it was noticed to grow.

At the end of March, 1894, a lump was noticed in the left armpit. In April the swelling in the right breast was observed. She persisted that the swellings in the left breast and axilla had been larger than they were when she entered the hospital.

The patient was a robust woman for her age. Her previous history had been uneventful; and there was no family history of malignant disease. The glands above the clavicles were not enlarged, and we could not detect any sign of disease in the lungs, heart, liver and kidneys.

On May 23rd I made an exploratory incision into each mammary tumour and found them to be scirrhus cancer.

On May 30th I excised both breasts, together with the skin over the tumours, the fascia over the pectoralis major, that between the two pectoral muscles, and all the glands and fat in the axillæ.

On June 7th the dressing was changed and the sutures removed; the right wound was firmly healed, and so was the left, except for one small part in the centre of the incision where the edges were not in perfect apposition.

She left the hospital with both wounds firmly healed on June 11th.

The growths were examined microscopically by Mr. Murray, who reported them to be examples of very cellular scirrhus carcinoma.

CASE 3.—*Chronic or atrophic scirrhus of the breast; excision of the breast and axillary glands.*—S. B., aged fifty-six, the mother of four children, was admitted to Middlesex Hospital, under my care, on December 17th, 1894. She was a well-nourished and fairly healthy-looking woman, who presented a tumour in the right breast. The tumour occupied the outer portion of the mamma, and was three inches long by one and a half inch across. It was of stony hardness. The skin over it was firmly incorporated with it and puckered, and in the centre the skin was dark in colour and scaly. Hard, slightly enlarged glands were felt in the axilla, but none were felt above the clavicle. There was no sign of visceral disease.

The patient stated that five years previously she noticed a hard lump in the breast as large as a florin; this had very slowly increased. Eighteen months ago the skin over the centre of the growth became of a dirty brown colour, and dry and rough in appearance. There had never been any discharge. For three years she had been liable to attacks of pain in the tumour and in limited areas scattered irregularly over the right side of the chest and right shoulder.

On December 19th I removed the diseased breast, carrying my incisions wide of the skin over the growth, and took away also the pectoral fascia and the axillary fat and glands. When the axilla was opened, the affected glands were found to be more numerous than had been previously made out. The highest of them were adherent to the axillary vein, from which it had to be carefully peeled off.

The wound was dressed on December 26th, and found to be all soundly healed. The sutures were removed and a collodion dressing applied. She returned to her home on December 28th.

CASE 4.—*Scirrhus of outlying axillary lobule of the mamma, and of the axillary and supra-clavicular glands; excision of the growths.*—L. B., aged fifty-four, widow, the mother of seven children, was admitted to Middlesex Hospital

August 20th, 1894. She stated that about Christmas, 1892, she noticed a small, hard, painless nodule about the size of a pea in the right axilla. This steadily increased in size, and about three months before coming to the hospital it "broke," and a watery fluid had been discharged from it ever since. For three months she had been losing flesh. There were no other important points in her family or personal history.

On examination I found a tumour in the right axilla about the size of a Tangerine orange, quite beyond and apparently free from the axillary border of the mamma. The skin over the tumour was incorporated with it; it was excoriated, smooth, with a free serous discharge, and it readily bled. The outline of the tumour was slightly nodular; it was firm, and moved freely over the serratus magnus muscle. No glands could be felt in the axilla apart from the one mass of new growth. Above the right clavicle a gland the size of an almond in its shell, and two much smaller ones the size of buckshot, were felt; they were hard, and moved freely under the skin and over the bones and muscles. There was no pain down the arm, nor cedema. The breast appeared to be healthy and unconnected with the tumour. A large *tâche De Morgan* was seen two inches above the nipple. The lungs, liver, and other internal organs appeared to be free from disease.

On August 22nd I removed the glands above the clavicle and the tumour in the axilla, and with the latter all the fat in the axilla and between the pectoral muscles. In freeing the axillary tumour a narrow band of tissue uniting it to the border of the mamma was found and was divided.

When I saw the patient on the afternoon of August 26th, I found the temperature had risen to 101.6° ; so I dressed the wound, and found some suppuration in its central part; its extremities and the wound above the clavicle were healing typically. On September 3rd she was discharged from the hospital, the wound being reduced to two small points of granulations not yet healed over. I saw this patient in November; she was then enjoying excellent health.

The parts removed consisted of the primary tumour in the axilla; of some enlarged and infiltrated glands in the axilla,

placed close beneath and inseparable from the original tumour; and of the supra-clavicular glands—at least three of these were diseased. The growths had the characteristic naked-eye appearances of scirrhus, and the microscope confirmed this. The strand of tissue connecting the primary axillary growth with the breast was found to consist of fibrous tissue with collections of epithelial cells enclosed in clearly defined spaces scattered through it. The cells appeared to be undergoing active proliferation.

REMARKS.—These cases of scirrhus illustrate departures from the common type of mammary scirrhus, and at the same time the operations performed were contrary to the rules usually formulated to guide the surgeon in his treatment of the various phases of this disease. It is for these reasons that I have placed them together.

In Case 2 we have an instance of scirrhous cancer attacking both breasts as a primary disease. The tumour in the left breast was noticed some seven months prior to that in the right, and at the time the case came under observation it was distinctly the larger growth of the two, and the diseased glands were also larger in the left than the right axilla. But the absence of all visceral infection and of signs of secondary growths in other situations showed, in my opinion, that the disease in the right breast was not secondary or consecutive to that in the left, but that it had arisen independently in the two glands. Occasionally we see the same thing, but with a longer interval between the occurrence of the two tumours, the disease arising in the second breast months or even a year or two after the breast first attacked has been removed. In other cases the disease in the second breast is distinctly secondary to that in the one first attacked, and is part of a widespread infection. When we remember that what we know of the etiology of cancer of the breast points to its dependence upon conditions common to the two breasts, it is remarkable how infrequent such a case as this, in which both glands are nearly simultaneously attacked, is. Cystic disease is often met with in both breasts. It is worthy of note that the disease does not appear to have arisen quite simultaneously on the two sides, and that it did not attack the

corresponding parts of the glands. Both of these facts are to some extent evidence against the theory which would attribute the origin of cancer to some "constitutional" condition.

The tumours in this case did not present some of the usual features of scirrhus, and until I had made an exploratory incision into them I was not at all sure of their nature, and rather leant to the view that they were chronic abscesses. I was led into this error by laying too much stress on the smooth rounded outline of the tumours, and by their elastic feeling, which on the left side I mistook for real fluctuation. On the right side, too, I thought the growth was movable in the breast itself. I ought to have attached more weight to the hardness of the tumours, to the adhesion of the skin and slight retraction of the nipple on the left side, and to the enlarged and hardened glands in each axilla. The fact that such an error in diagnosis was made is another piece of evidence to show the importance of exploring every breast tumour before removing it.

The chief interest of the case, however, belongs to the question of treatment. By some authorities it is laid down as a canon that operation should not be undertaken for cancer of both breasts. Such a statement can only be justified on the ground that double amputation of the mamma is too severe an operation to be safely recommended, or that in these cases the operation will certainly fail in its aims. In these days of almost bloodless and aseptic surgery the excision of the breast and axillary glands is no longer a major or capital operation, and, even when double, cannot rank in severity with many others that are constantly practised. This patient's speedy convalescence, and the fact that she was able to return home quite well within a fortnight of the operation, well supports this statement. But the more serious question is whether the presence of cancer in both breasts shows such a grave condition that operation cannot be expected to deal satisfactorily with it. If the growth in one breast is secondary to that in the other, we must unhesitatingly answer "Yes." But when, as in this case, the evidence points to the two tumours being primary, our answer should be a confident "No." It is a great misfortune that confusion

of these two conditions has so long existed, and that a rule of practice wise under one set of circumstances has been applied under circumstances altogether different. In other regions of the body no such rule obtains. Thus I have twice within recent years excised simultaneously two separate primary epitheliomata of the lip, and no one would for a moment suggest that in such a case the surgeon should hold his hand. It is perhaps an open question whether the breasts should be removed simultaneously or in two successive operations at a short interval. I have tried both plans, and am distinctly in favour of the simultaneous or single operation, unless there is some special condition which renders the operation more than usually grave. My reasons for this choice are that the anæsthetic is at once the chief danger and the main source of distress to the patient in a properly conducted aseptic operation, and that the double amputation is not attended with dangerous shock, nor is the restraint of both arms afterwards a serious addition to the patient's troubles. To operate *à deux temps* is to double the patient's risk, suffering, inconvenience, and period of confinement, without, as a rule, any countervailing advantage.

Case 3 calls for little comment. Just before I saw her she had attended at one of the largest metropolitan hospitals, and had been advised by the surgeon to have nothing done as the case was of such a chronic nature. In operating I undoubtedly ran counter to another of the text-book canons, which would exclude all cases of "atrophic scirrhus" from the aid of surgery. This axiom has come down to us from the days of incomplete and septic operations for cancer of the breast. It is justified, if at all, by the fact that this form of the disease is often very chronic and causes little trouble, and by the belief that operation may be followed by a recurrence of the growth in a more active and malignant form. Both of these statements require qualification. In some cases of atrophic cancer, ulceration and more active growth occur in the later stages of the disease, and in nearly every case it finally causes more or less discomfort, while secondary growths in internal organs may develop. There is therefore ample reason for wishing to free the

patient of her disease if it can be easily and safely done. It must be remembered that the modern operation for cancer of the breast, with its wide removal of all diseased parts, and particularly of the entire mamma, of the skin over the growth, of the fascia over the pectoral muscles, and of all the fat and glands in the axilla, is a very different operation from the older operation, upon the results of which many of our rules of practice are framed. Now that the operation is carried out with so much greater thoroughness, and at the same time is attended with a minimum of danger and discomfort to the patient, I believe that it can be employed with signal advantage in the most chronic cases of scirrhus, and I advise all such patients, except the very aged, to submit to the operation. The more or less acute course of the disease has a very great influence upon the results of operations undertaken for it. In the most acute cases operation, be it ever so free, does no good. I believe the converse will be found to be equally true—that the most chronic forms of the disease will yield the best results.

CASE 4.—This case is a good instance of scirrhus arising in a detached axillary lobule of the mamma. These cases often give rise to doubt or error in diagnosis, for the tumour lies quite in the axilla, and its connection with the mamma is very slight. Such growths have been supposed to arise from other glands than the mamma; in this case it was easy to prove at the operation that a distinct but fine strand of tissue, well marked off from the surrounding fat, connected the tumour with the breast; and the registrar's examination of this strand shows it to consist of imperfectly developed mammary tissue. The apparent entire detachment of these outlying mammary lobules should always be borne in mind.

Two surgical canons were infringed in the operation on this case—the first in operating at all when the supra-clavicular glands were infected, and the second in removing the tumour without removing the entire breast. As a general rule such canons are excellent guides, and their infringement would be disastrous.

It is a remarkable fact that the glandular infection quickly spreads to the whole chain of glands in the axilla, and then

stops usually for a long period before involving the supra-clavicular glands. It is for this reason that removal of the fat and glands in the axilla is so generally successful in arresting the spread of the disease by the way of the lymphatics; and as a rule, therefore, when the supra-clavicular glands are enlarged it indicates a late stage of the disease, and one that is beyond the aid of surgery. It is often impossible to remove all the infected glands; but there are exceptions to this rule, and I believe the case in point was one of them.

The disease in the glands appeared to be very limited, and the enlarged glands were not fixed and were easily removable. A case that I had under my care several years ago impressed me much. It was that of a woman whose breast and axillary glands I removed for scirrhus. Some time after, she came back to me with several small hard, freely movable glands above the clavicle. Two of my colleagues whom I consulted on the case were very strongly of opinion that I should not remove these glands, and their advice I followed. For more than a year the glands appeared to undergo no alteration, and there was no sign of any further infection: then the glands slowly increased and became adherent, and other secondary growths appeared. I could not but feel that, had I interfered when she first came to me with the diseased cervical glands, I might have arrested the disease in this direction at any rate. The ordinary rule is undoubtedly a wise one to follow in nearly all cases, but where the glandular growth has taken place very slowly, is limited in extent, and the glands are freely movable under the skin and over the bones, muscles, vessels, and nerves—and where also the other features of the case do not contraindicate operation—I should advise the excision of diseased (cancerous) supra-clavicular glands.

As regards the other point, the propriety or otherwise of leaving the mamma, I would submit that in cases of disease attacking a detached axillary lobe, as was the case in this patient, it is quite unnecessary to amputate the breast. I recently saw in consultation a case of this kind in which the nature of the disease had not been recognised, and where it had been allowed to run its natural course, and although

the glandular infiltration was very extensive—far too severe to permit of operation—there was no sign of infiltration of the breast, nor of any extension of the disease in that direction. Widespread changes are described in the mammary glands, which are the seat of limited cancerous disease, and this fact is used as an argument in favour of the wise practice of careful removal of every part of such a gland. But it is interesting to reflect that when the disease is allowed to run its course without any operative interference, multiple growths in the breast are excessively rare. As having some slight bearing upon this point, I may mention one other case. In November, 1890, I was consulted by a lady aged sixty-two, the subject of great hypertrophy of the mammae, in reference to a small hard nodule, the size of a small nut, in the lower axillary margin of the right breast. I found one small hard gland in the axilla, and decided that the disease was scirrhus cancer. There were special reasons in this case for reducing any operation to its irreducible minimum, and I therefore removed the small tumour with the skin over it, a mass of breast around it, and all the fat and glands in the axilla, but left behind the great bulk of the mamma. In March, 1894—3½ years after the operation—this lady returned to me, and I found a recurrence of the growth in the middle of the scar, therefore near the axilla; this was about the size of a pea. The mammary gland showed no sign of any recurrence, nor could I detect any evidence of lymph-glandular disease. I removed this small recurrence, and have heard nothing more of my patient. In one other case of the kind I pursued the same line of treatment; the patient has not returned, and I cannot speak of the final issue.

Even well-established rules of practice bear re-examination and criticism; and, as showing that the rules generally laid down to guide us in the selection of cases for excision of the breast may be departed from with advantage in certain special circumstances, I trust these cases of cancer of the breast will be deemed of some interest.

THE TREATMENT OF NERVOUS DISTURBANCE OF THE HEART RESULTING FROM INFLUENZA.

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As this is intended to be a practical paper, I will preface it by stating very briefly the plan of treatment which I adopt in the early, acute, stage of influenza. The patient being at rest in bed—for as complete muscular and nerve repose as possible is essential in the treatment of even slight cases—I now make a routine practice of administering sulpho-carbolate of sodium in somewhat large doses. For an adult the dose should be half a drachm dissolved in an ounce of peppermint water or cinnamon water. I seldom give less than 20 grains, even to a child. In ordinary cases the dose is repeated every four hours; in more severe cases every two or every three hours.

The diet should be almost entirely liquid—milk diluted with pure water or with soda-water, chicken-broth, or mutton-broth—a little soaked rusk in the hot milk or toasted bread in the broths being the only approach to solid food. Strong beef-tea and the strong meat extractives are to be avoided, for the excretion of the products of tissue-change, as evidenced by the high specific gravity of the urine, is excessive in the early stages of the disease. Alcoholic stimulants should be administered, not with a free hand, but with caution—champagne diluted with Apollinaris or other effervescing water, or brandy in dessertspoonfuls every three or four hours with milk and soda-water.

In the case of manifestations of temperature above 103° F., quinine is the best antipyretic. I think it is best administered in 5-grain doses, dissolved in 20 minims of dilute hydrobromic acid and an ounce of chloroform-water, and repeated every hour, if the temperature does not fall, until four doses have been given. Phenacetin, in 8- or 10-grain doses, or antipyrin, 15 or 20 grains, gives comfort, but their action must be watched, as they sometimes increase the already profuse

perspirations. In some cases all these antipyretics fail to bring down the temperature in the least. Then the inference is serious: there is probably a dangerous or fatal cerebro-spinal involvement. The pains referred to the head and limbs are often much relieved by the administration of phenacetin or antipyrin, and these drugs may be repeated every four hours during the phase of pain, unless profuse perspirations or signs of nervous prostration are contra-indications. The 8 or 10 grains of phenacetin are best administered with 1 grain of camphor in wafer cachets; the antipyrin in solution in camphor-water combined with such stimulants as the tinctures of sumbul and lavender, 20 minims of each. In a case manifesting profound adynamia I know no more efficient stimulant than musk—5 grains placed upon the tongue, and followed by the administration of a few teaspoonfuls of milk and water. The hypodermic injection of brandy and ether, or of strychnine (gr. $\frac{1}{16}$ to $\frac{1}{8}$), preferably by the dissolved discs or lamels, is called for in some cases. Each hypodermic lamel contains $\frac{1}{8}$ grain.

After the acute symptoms have subsided, and for several weeks during convalescence, the mixture of sodium sulphocarbolate (still $\frac{1}{2}$ -drachm doses of the salt), with the addition of 3 to 5 minims of Fowler's arsenical solution, is to be administered three times a day after food. The treatment of the naso-pharyngeal mucous membrane now becomes important. I advise the use, at least three times daily, of Burroughs and Wellcome's naso-pharyngeal oil-atomiser. The formula I adopt for the agent to be employed is as follows:—Camphor and menthol, of each 20 grains; pure carbolic acid, $\frac{1}{2}$ drachm; parolein (B. and W.), 4 ounces. If there should be frequent cough or marked irritability of the mucous tract which this oil-spray fails to overcome, the latter may be reinforced thus: Take of pure cocaine and of menthol of each 20 grains; dissolve in 1 ounce of olive oil. Apply a few drops to the interior of each nostril, and follow by the oil-spray. Thus the anæsthetic oil solution is diffused through the naso-pharyngeal tract. The principles of this method of treatment are these:—(a) The tissues are rendered by the administration of the sulpho-carbolate inimical to the influenza microbe. I

have seen recoveries in cases which seemed to me to present strong evidence of the efficacy of the treatment. (See case of Purpura Hæmorrhagica with acute pemphigus, probably induced by influenza; treatment by large doses of sodium sulpho-carbolate; recovery—*Clinical Society's Transactions*, vol. xxvii.) (b) The varying effects of the toxins of the microbe are treated symptomatically. (c) The microbes lingering in the air-passages are influenced locally, and, by the anæsthetic effect of the oil-spray applications, reflex irritations are mitigated or prevented.

During the febrile period of influenza the contractions of the heart are usually quickened—according to the general rule of diseases attended with pyrexia—but by no means invariably. I have just observed a case of influenza in which there were frequent risings of temperature to 103° F., severe sweatings and intense pains, and yet the pulse was constantly only 60 per minute.

The effects of influenza are long lasting. The view that the dangers and difficulties are over when convalescence is established after the acute phase of even a slight attack is a very erroneous one. Processes of disease may begin to be manifested many months after the initial attack, and these may continue more than two years. Thus influenza presents analogies with diphtheria and with syphilis.

The signs and symptoms referred to the heart resulting from influenza in cases under my own observation were thus distributed:—In one hundred cases: pain referred to the heart twenty-three cases; the rapid heart (tachycardia) thirty-seven cases; the irregular heart (arrhythmia cordis) twenty-five cases; the slow heart (bradycardia) five cases; organic disease of the heart, ten cases.

Organic disease of the heart as a direct result of influenza I believe to be very rare. The specific poison alarmingly reinforces pre-existing rheumatic disease. Endocarditis and pericarditis of rheumatic causation may rapidly increase if the subject of them become infected with influenza. In very rare cases a septic form of endocarditis has been initiated by the acute disease. Acute and subacute inflammations of the aorta, and probably of the

pulmonary artery, have been induced in some cases. I have no evidence, however, that endocarditis (except of the ulcerative form) or myocarditis are produced by the toxic agencies of the disease. Disturbances of the nervous mechanism of the heart, however, are frequent sequels of influenza, and from a series of cases in which such disturbances have been manifested and from the associations with other cases in which there have been incontrovertible signs of disease of the spinal cord, I cannot doubt that the disorders in question have their origin in induced morbid conditions of the medulla oblongata, the nerve elements within the cord, and the sensorium. The pain which seems closely associated with the heart itself may be felt in the situation of the apex, over the anatomical site of the right and left ventricles, over the sternum, or localised in the intercostal spaces, especially the second, close to the sternal border. In some instances there is a sensation of fluttering of the heart (*tremor cordis*), but in most cases the heart sounds are normal; and the rhythm during the extremity of the pain, as well as at all other times of observation, is quite regular. Very commonly there is a sense of extreme mental apprehension and fear of death. The pain may be continuous for hours, with exacerbations and mitigations, or paroxysmal. In either case it may be of intense severity, and I have had several instances in which it caused complete unconsciousness from syncope. Naturally the fear of *Angina Pectoris* occurs, but, happily, in the great majority of cases there is complete recovery. The signs of high arterial tension are not manifested in the cases. A favourable prognosis is, therefore, usually justified, and it is important that this good medicine of hope should be administered to the patient, and that all depressing emotions should be avoided. There may be an error, however, on the other side. It is not correct to call these cases hysterical—the symptoms may occur in the strongest men and in those who present no associations with hysteria. In one case which I observed of a lady in whom hysteria might have been suspected from the symptoms, sudden death, preceded by convulsion, took place during the night. My diagnosis was acute or subacute aortitis. The attacks of pain may begin to be manifested very soon after

the acute onset of influenza, but in many cases the first symptoms do not occur until after the lapse of several months—at least six months—from the acute attack. Practically we should consider them as neuralgic; they are often attended with distinct signs of neuritis, though the manifestations are periodic and not persistent. The differentiation from the dangerous condition of inflammation of the aorta is to be made chiefly by the observation of the effect of effort. Usually the patients are able to walk about, and the attacks are not determined by muscular exertion, though movement may aggravate the pain when once established. In aortic inflammation the pain as well as dyspnoea are brought on by even slight movements.

In any case of severe heart-pain after influenza complete rest should be recommended in the early stages of treatment.

A hypodermic injection of hydrochlorate of morphine (gr. $\frac{1}{4}$ to gr. $\frac{1}{2}$) may be administered at the situation of the maximum of the suffering, but the precaution should be taken of giving a diffusible stimulant by the mouth shortly before the injection. I suggest the following formula:—Spiritus ætheris ʒss; spiritus ammoniæ co. ʒss; tinct. sumbul ʒss; aquæ camphoræ ʒiiss; to be taken as a draught before the administration of morphia, and repeated an hour afterwards. Once the severity of the pain is thus mitigated, other agents than morphia should be employed. Quinine in 5-grain doses dissolved in hydrobromic acid, as before suggested, is often very effectual. If there be any periodicity about the attacks this dose should be administered about half an hour before the usual period of onset, and repeated at hourly intervals during the painful phase until three or four doses have been taken. Smaller doses are ineffectual. The same precautions as to administration of stimulant antispasmodics should be taken with quinine as with opium, for quinine may depress the heart. After the administration of quinine in these doses for three or four days there should be a two or three days' interval. When, however, the severity of the pain is broken a 5-grain dose once every two or three days is found to be sufficient. For more continuous treatment at the early stages of the painful phase bromide of sodium in

20-grain doses with 3 minims of Fowler's solution, dissolved and sufficiently diluted, may be given with advantage three times a day after food. In some cases 5-grain doses of iodide of sodium are added with benefit. The bromide should not be given continuously for more than two or three weeks; afterwards the alkaline carbonates with the small doses of arsenic may be substituted.

Local treatment in the more persistent forms of pain is valuable. Mustard poultices sprinkled with tinctures of opium, belladonna and aconite give relief in some cases. I have used in others a fomentation of lint soaked in a hot solution of salicylate of sodium with much advantage; or an ointment containing 20 per cent. of salicylic acid and 10 per cent. of menthol, in a fatty basis of lanolin and lard, may be rubbed in by a flannel pad over the painful area. In the more chronic cases small oval blisters applied over the intercostal spaces have been efficient. I have also found the constant galvanic current (as from a Schall's 6-cell battery, the positive pole placed over the nape of the neck and the negative over the painful site, the applications being for ten minutes twice daily) completely remove the pain.

Abnormally rapid action of the heart may be the immediate sequel of an attack of influenza, or may be manifested some months after the initial attack. In some of these cases palpitations are severe, and the heart's action is made still more rapid by muscular movements or slight causes of disturbance. In very many, however, the abnormally rapid contractions of the heart, habitually over 100 per minute, are quite unperceived by the patient. In a large number of cases there are some of the associated signs of Graves's disease. One sign, slight in itself, is worth investigation. The patient after the attack of influenza may be observed to present some retraction of each upper eyelid, so that the eyeball seems to be somewhat unduly prominent; when the patient is asked to gently close the eyelids it will be seen that both lids exhibit a very unusual tremor. There are, in fact, slight Stellwag's signs with spasm of the orbicularis palpebrarum. In some instances there are all, or nearly all, the chief phenomena of Graves's disease. Where the lid-signs I have mentioned are

present, though even in slight degree, there will be usually found an undue rapidity or an irregularity of the heart's action. In the cases manifesting the rapid heart there are often emotional outbreaks. There may be muscular tremors, flushings, perspirations and faintnesses. In many instances there are paroxysmal attacks characterised by flatulence, nausea, gastralgia and diarrhoea, accompanied by dyspnoea as well as palpitation—a combination which I have termed a "vagus storm," as they seem to imply a disturbance involving all the areas subserved by the pneumogastric nerve.

It seems to me that the condition of rapid heart after influenza is explained by the effect of the toxins of the microbes upon the nervous mechanism of the cardiac reflex. The vagus-controlling influence is weakened, and the accelerator agencies are relatively in excess.

In the treatment of these cases I believe digitalis and the analogous cardiac tonics to be not only useless but dangerous. The reasoning thus expressed: "The heart's action is rapid, digitalis slows the heart's action; therefore give digitalis," is unsound and unsafe. It seems to me very probable that in these days, when digitalis, strophanthus, and other powerful agents of their class, are readily procured in almost any quantity by the public, are presented in an attractive form, and are swallowed when not prescribed by a qualified medical practitioner, many lives have been shortened. The first indication in treatment is to allay all inordinate nervous perturbation. It is not necessary, save in exceptional cases, to insist on complete rest in bed, but all causes of undue excitement must be avoided. The mixture of sodium bromide with small doses of arsenic, as suggested for the treatment of pain at the heart, is perhaps the most generally useful. During the periods of dyspepsia the alkaline bicarbonates, with bismuth and small doses of dilute hydrocyanic acid, seem to be the best therapeutic means.

For the treatment of the insomnia, I think the most useful and least harmful agent is chloralamid in 20- or 25-grain doses, administered at bedtime. If this be inefficient, like doses of sulphonal may be given. Opium should be avoided, or, at any rate, reserved for emergencies.

It is to be remembered that an abnormal frequency of the cardiac contractions may be continued in a given subject for many years. We feel that such a patient is unstable, though there may be no other notable deviation from health. Treatment by drugs often fails to reduce the rate of pulsations. I have observed a sufficient number of cases to convince me that in the continuous galvanic current we have a valuable method of treatment for these cases. The current from a Schall's four- or six-cell battery is sufficient. One pole, the anode, moistened with warm water or salt-and-water, is held over the nape of the neck, and the other, the kathode, is gently pressed into the groove in the neck outside the larynx. The current is allowed to pass for six minutes three times a day, the applications of the kathode being to the right and left sides of the neck alternately. In many cases the effect is quite imperceptible, but in some, even with these weak currents, there are effects upon taste and upon vision (flashes of light, etc.); and often there are prickings of the skin. The rate of the heart's pulsations is reduced, though it must be remembered that satisfactory results are very slow in appearing. There is seldom much improvement in less than six months. Patience is necessary; but I have seen the best results follow this plan of treatment.

The irregular heart after influenza has associations very similar to those of the rapid heart. The irregularity may be extreme, and yet unperceived by the patient. It is most important that attention be not drawn to it, for, once observed as a subjective sensation, the formerly almost harmless phenomenon becomes a lasting misery. There are with the irregular heart associations with the signs of Graves's disease, with vagus storms and with multiple neuritis, as with the rapid heart. The most important differences are that the condition of irregularity of the heart's action is much more frequently attended with præcordial pain and cardiac discomfort, that it is more apt to be evidenced in persons of advanced age and of gouty tendencies, and that it not infrequently co-exists with disturbances of the faculty of hearing. The lines of treatment are chiefly those recommended for pain at the heart and for tachycardia.

The treatment for gout, and for dyspepsia in general, becomes in these cases of still more importance than in the former, and judicious management of the naso-pharyngeal passages (whereby reflex causes of irritation are removed), as well as of all forms of auditory disturbance, is to be carried out.

Abnormal retardation of the rate of the heart's contractions (bradycardia) may also follow an attack of influenza, and that immediately or after the lapse of several months. The slowing of the heart may be paroxysmal or persistent. I have observed a case in which a pulse habitually of 72 per minute was reduced to 48 during periods of severe epigastric and abdominal pain, recurring every afternoon for three or four hours for the space of a week. After the pain had disappeared the pulse rose to a rate of about 90. Treatment by phenacetin and camphor, with local warmth and counter-irritation of the epigastrium and abdomen, is successful. Aperients and so-called appeals to the liver are seldom called for. If there be constipation, a dose of castor oil or an olive-oil enema is to be recommended.

A more permanent bradycardia is much more serious. I have known a pulse of 19 per minute to follow an attack of influenza. During long observation of the patient in hospital, the pulse-rate never rose above 36. The man was discharged from the hospital in fair health, but died suddenly at his home soon afterwards. The only drug which causes any increase in the heart-rate in such cases, according to my experience, is belladonna. The tincture may be given in 10-minim doses three times a day, or the extract in half-grain doses. The administration should be suspended for one or two days at the end of each week. Massage and graduated muscular exercises are useful; but it must be realised that the condition of very slow heart is one of peril.

ON THE LOCAL TREATMENT OF PUERPERAL FEVER.

BY CHARLES J. CULLINGWORTH, M.D.,

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CASES of puerperal fever (I use the old term because it is convenient and comprehensive) are held by the best authorities of the day to be divisible into two main groups—namely, cases of septic infection, or septicæmia, and cases of septic intoxication, or sapræmia. In a typical example of the former class the symptoms are due to the entrance into the system, through the lymph-channels, or directly into the blood-current, of living pathogenic micro-organisms. These poisonous germs are for the most part introduced from without by direct contact with unclean hands, unclean instruments, unclean sponges, or unclean linen. When once they have entered the system the infection becomes general, and the struggle is between the poison and the resisting power of the patient. They are beyond the reach of local antidotes, and the only resource of the medical attendant is to sustain the patient's powers by careful nursing, by the relief of symptoms, and by the administration of food, stimulants, and internal medicines until the battle has been decided.

In a typical example of the latter class the symptoms are due to the absorption into the system of poisonous chemical products resulting from the decomposition of portions of placenta, membrane, or blood-clot retained within the uterine cavity. In this class of cases local measures are not only important, but are often curative. If we can succeed in emptying the uterus we arrest the formation of these ptomaines, and the symptoms due to their absorption disappear. We have to wage war, not against living micro-organisms disseminated through the system, but against a local process of putrefaction. The problem, therefore, is a much simpler one and the outlook is more hopeful.

The diagnosis between the two classes of cases can often be made by carefully observing the character of the lochia.

If the lochia are offensive, it will generally be found that the case belongs to the second or more hopeful class. I say "generally," because this is not invariably the case. In the first place, cases occur not unfrequently in which the lochia are not noticeably offensive, and yet in which decomposing material is present in the uterine cavity in sufficient quantity to produce febrile symptoms; and, on the other hand, the lochia may be offensive in cases of true septic infection, either as a secondary result of the systemic infection (as in some cases to which Dr. Boxall has called attention), or because the case belongs to a mixed variety to which I shall presently allude.

There is abundant evidence to prove that the first class of cases is preventable. The statistics of the great lying-in hospitals abroad and of the smaller ones in our own country, to which I have elsewhere called attention, show beyond the possibility of doubt that where delivery is accomplished with strict asepsis, infection does not occur. Our great hope here, therefore, lies in prevention. The second class of cases is not so certainly preventable. It is not always easy to be certain, even by careful examination of the placenta and membranes after their extrusion, that the uterus is absolutely empty. Such an examination should, of course, never be omitted. It will in many cases enable us, by the detection of ragged places on the placental surface or of the incompleteness of the bag of membranes, to recognise the necessity for an immediate exploration of the uterine cavity with a view to assuring ourselves that no fragment of the secundines has been retained. But I have so often known it happen that the attendant has examined the placenta and satisfied himself that it was complete, in cases where small portions of decomposing tissue have nevertheless been subsequently found in and removed from the uterus, that I have learnt not to rely upon even the most carefully conducted examination as definitely conclusive.

Like most classifications in medicine, the one I have just given fails to represent the whole truth. For, although it is undoubtedly true that when puerperal fever is conveyed by contamination from without by means of infected hands

and instruments the form of fever is that engendered by the admission of infective micro-organisms into the blood—puerperal septicæmia, it is not to be straightway inferred either that in such cases no *débris* will be found in the uterine cavity, or that, being there, they take no part in the causation of the disease. It is well known that effused blood and dead tissue constitute the best of all media for the development and multiplication of pathogenic micro-organisms, and although these micro-organisms may and often do find their way directly into the lymph and blood channels through breaches of surface such as lacerations and abrasions, yet a by no means uncommon mode of entrance is through the placental site, and the presence of portions of adherent placenta or membrane or blood-clot in such cases facilitates the process enormously. They afford lodgment for the poisonous germs, and supply them with the conditions that favour their rapid development and increase. Hence it follows that, in the first place, it is not safe to take for granted, in a case of true puerperal septicæmia, that the uterine cavity is empty; and that, in the second place, it is by no means certain that when *débris* are found in the uterine cavity the symptoms will be only those due to the absorption of the chemical products of putrefaction, and will disappear when the *débris* are removed. In these days, when the vital importance of the use of antiseptics in midwifery is generally recognised, it is found that in the majority of cases removal of decomposing material from the uterine cavity will cause the temperature to fall and the symptoms to disappear within a few hours. This happy result of prompt treatment can, however, only be reasonably expected when antiseptic precautions have not consisted in a mere perfunctory dip of the forefinger into an antiseptic solution, but have been adopted with the care and thoroughness that an implicit belief in their value can alone inspire.

If, then, we can never be certain in any given case of puerperal fever that there are not within the uterine cavity retained portions of placenta or membrane or decomposing blood-clot, either acting as the sole cause of the symptoms through the absorption of the chemical products of their

decomposition, or aiding and abetting in the development of the more formidable type of septic infection by affording favourable media for the propagation and dissemination of the poisonous living germs that, in that case, constitute the *materies morbi*, the duty of the medical attendant to ensure the complete emptying of the uterus whenever septic symptoms appear is perfectly obvious. How should this be done? The ordinary teaching, and I think I may say the ordinary practice, is to rely upon the intra-uterine douche. It is chiefly because I am convinced that this is in many cases an inefficient method that I have been induced to offer these remarks to the readers of the PRACTITIONER. The intra-uterine douche can only empty the uterus of its contents if those contents are lying free in the cavity, or are sufficiently loosely attached to be capable of being washed away by the current. I have met with but few cases in which these conditions have been fulfilled. The retained portions, when present at all (and the cases of puerperal fever met with nowadays are, so far as my experience extends, almost invariably characterised by the presence of retained portions of placenta or membrane), are seldom free in the uterine cavity, or even loosely attached to the uterine walls. On the contrary, they are, for the most part, intimately and morbidly adherent to them in such a way that no douche will separate and remove them.

The intra-uterine douche has its uses, but it should not be expected to perform impossibilities. The result is certain to be disappointing. And so, from the faulty application of a correct principle, discredit will be undeservedly brought upon a valuable method of treatment. The proper and effective course, after having ascertained that the bladder and rectum are empty, and after having thoroughly disinfected the hands, is to pass the first, and if possible the second, finger of one hand into the uterine cavity, while the other hand is used to steady and depress the body of the uterus by grasping it through the abdominal wall. Up even to the tenth day after labour at term the cervical canal remains sufficiently open to admit one or two fingers without artificial dilatation; and by utilising the external hand first

to straighten the uterine axis by elevating the fundus, and then to press the whole organ downwards and backwards in the direction of the pelvic axis, the whole inner surface of the uterine cavity can, by a series of combined manipulations, be brought within reach of the examining fingers. The separation of an adherent portion of placenta is sometimes an easy process, but is more frequently a long and difficult one. Anyone, at any rate, who has once performed this operation will agree with me in the view I have expressed as to the powerlessness of the intra-uterine douche for such a purpose. He will also probably agree with me in preferring to use the fingers rather than the curette. Not having much experience of the curette in this class of cases, perhaps I ought not to say anything against it; but it would require some very strong arguments to convince me that the use of a metallic instrument is as safe as that of the finger when portions of morbidly adherent tissue have to be separated by force from the softened and flaccid walls of a puerperal uterus.

When all adherent shreds have been removed, it is good practice to, once for all, douche the uterine cavity with a hot antiseptic solution, so as to wash away all the *débris* and completely empty the cavity. My own preference is for a solution of corrosive sublimate (1 in 5,000), at a temperature of 112° to 115° Fahr. Of this I generally use about half a gallon. The uterus should be carefully compressed after the douche has been employed, so as to prevent any of the solution from lodging in its cavity; and care should also be taken that none remains in the vagina. Unless these points are attended to, the internal use of corrosive sublimate is dangerous.

It has been recommended to follow up the use of the douche by inserting an iodoform intra-uterine suppository. I have done this in a few cases; and, though I cannot say that I have ever seen it do any harm, I have never been able to satisfy myself that it did any good. Another and more recent plan, of which I have no personal experience, but which has been very widely adopted in some other countries, is to pack the uterine cavity, after douching, with strips of iodoform gauze. This is said to arrest oozing, to act as a

disinfectant, and to promote uterine contraction and involution.

Personally, I am not as yet convinced that any sufficient advantage accrues from this packing to compensate for the additional disturbance of the patient that it involves both at the time and subsequently.

It is usual for the temperature and pulse to rise during the first few hours after intra-uterine manipulations of the kind I have described, but by next day, in the majority of cases, both temperature and pulse have fallen. I do not know the scientific explanation of the immediate rise (often accompanied with a rigor), but it may well be that, by separating adherent fragments from the inner wall of the uterus, a raw surface is suddenly exposed over a portion of the placental site, and that absorption is thereby, for the time being, greatly facilitated.

The subsequent progress of the case will depend upon whether it is one of septicæmia or sapræmia. In the latter case, the removal of the decomposing *débris* will have effected a cure. In the former case, it will not have done that, but it will have removed a probable source of septic absorption, and lessened the chances of further infection.

The question may here very reasonably be asked, "Have I carried out this method of treatment in my own practice, and, if so, with what result?" I may answer the first part of the question by saying that I have for some years been in the habit, when called early into consultation in cases where a persistently high temperature and other symptoms of fever have followed childbirth, of making an intra-uterine examination; and that during the five years I held the appointment of Visiting Physician to the General Lying-in Hospital any rise of temperature, of more than ephemeral duration, occurring in one of my patients was taken as indicating the necessity for immediate intra-uterine exploration. The startling result of this somewhat large experience is that I can scarcely recall more than one or two cases where I have failed to find small pieces of adherent placental tissue in a condition of incipient or more advanced decomposition. In the great majority of cases the result of clearing

out the uterus has been that the fever has disappeared within twenty-four hours; in some, the disappearance has been less rapid, and in others, where true septicæmia had already declared itself, the removal of the putrid *débris* has been ineffectual in checking the progress of the disease. But even in these last-named cases it was surely worth while to remove what could not be otherwise than a source of fresh absorption and therefore of continually increasing danger.

I commend these suggestions to my professional brethren, and confidently urge their adoption, either as a further and more effective resource when the employment of the intra-uterine douche has failed to give relief, or, better still, as a preliminary to the use of the douche. The manipulations will no doubt at first prove somewhat difficult, but a very little experience will ensure the necessary dexterity.

CAFFEINE IN DISEASES OF THE RESPIRATORY ORGANS.

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CAFFEINE is chiefly known as a stimulant to the nervous system, as a diuretic, and as a cardiac tonic. The object of this paper is to call attention to the value of the drug in affections of the respiratory organs, and especially in conditions where the element of spasm exists.

The influence of caffeine in diseases of the bronchial tubes and lungs is exerted in two ways: first, directly, in producing relaxation of spasm in the respiratory tract; and secondly indirectly, in aiding the heart, upon which extra work is thrown by any source of obstruction in the pulmonary circulation.

It is with the former effect of the drug that this paper is chiefly concerned, inasmuch as reference to the literature of the subject shows that caffeine, in the treatment of bronchial

asthma and allied conditions, is not assigned the prominence which, in the writer's experience, is its due. Most authors, indeed, state that the paroxysm of asthma is not uncommonly relieved by the administration of strong coffee, and some mention that caffeine may also be useful; but these statements are made in such a way as to indicate no special faith in the remedies, and to suggest the want of experience of their use.

In the writer's practice, caffeine has long held the first place in the treatment of the paroxysm of spasmodic asthma; and it is his conviction that the drug is deserving of much wider recognition than it has hitherto obtained in the management of this intractable and erratic complaint. Success does not always attend its use, but its failures are perhaps fewer than those of any other remedy; and again and again has it happened that when drug after drug and specific after specific have proved unavailing, caffeine has afforded relief. This is also the experience of many of the writer's medical friends to whom he has suggested a trial of the alkaloid, some of whom have indeed informed him that they have gained much credit with their patients through their success in cases that have previously obstinately resisted treatment. A letter received within the last few days states that "the caffeine acted on the asthma like a charm"; and there are many asthmatics who resort with confidence to the remedy that experience has shown to have more influence than any other over their troublesome malady.

As with other therapeutic measures in this disease, no absolute rule can be laid down with regard to the class of case in which the administration of caffeine is likely to be successful, or the reverse; but it appears to act with more certainty in adults than in children. As would also be anticipated, a good result is more likely to be obtained when there is an absence of sources of peripheral irritation, such as the existence of dyspepsia or of nasal polypi; but here again no definite line can be drawn, as in some instances of digestive asthma the relief afforded by caffeine is marked. Benefit is usually most conspicuous in patients whose paroxysm is wont to commence in the early hours of the morning, waking them from sleep.

With regard to dose and mode of administration, the writer is in the habit of prescribing the citrate of caffeine; and the average adult dose is 5 grains, which can be taken either in a *cachet*, or dissolved in water. When a paroxysm of asthma is present, 5 grains are ordered every four hours until the bronchial spasm is relieved; after which the remedy may be given at longer intervals, to avert any tendency to relapse. In the case of patients whose attack comes on fairly regularly in the early morning, a dose of 5 or 10 grains at bedtime often suffices to avert the paroxysm, or, at all events, to render it so slight that the patient is able to sleep through it, and wakes in the morning with some sensation of tightness in the chest, which a further dose or two of caffeine removes; but if the asthmatic attack wakes the patient in spite of the evening dose, he takes 5 grains immediately, and again in an hour, two hours, or at longer intervals, as may be necessary to subdue the spasm. The effervescing hydrobromate of caffeine is inconvenient for use, as it contains only 1 grain of the drug to the teaspoonful, and consequently the quantity requisite to convey the dose of 5 grains is large. The writer has not had occasion to administer caffeine by hypodermic injection.

The influence of caffeine in relaxing spasm is not limited to bronchial asthma, but is also exerted in any morbid condition in which muscular contraction of the bronchial tubes is a factor; and it is proportionate to the amount of such spasm which is present in any given case. Thus in acute bronchitis, when the existence of dry *râles*, or rhonchi, is partly the expression of narrowing of the tubes from contraction of the muscular fibre in their walls, and partly due to inflammatory swelling of the lining membrane, the remedy in question will tend to cause relaxation of the spasm, and consequently relieve dyspnoea in so far as it is due to this element; while on the other hand there will be no change in the physical signs and accompanying symptoms which are the expression of tumefaction of the mucous membrane or of the presence of secretion in the bronchial tubes. Similarly there is often an element of true spasm in chronic bronchitis and emphysema; and upon this caffeine will be found to exercise a beneficial influence, allowing of greater

freedom in the passage of air, and thus relieving dyspnoea and adding much to the comfort of the patient.

Physiology throws no light upon the mode of action of caffeine in the conditions referred to. Experiment shows that the alkaloid has a marked influence upon muscular fibre, both voluntary and involuntary; but this is manifested in the production of rigidity by its direct action upon muscle in one species of frog, and of tetanic convulsions in another species from its effect on the spinal cord. In warm-blooded animals also caffeine in large doses causes tetanic convulsions, and ultimately death from respiratory paralysis.

Brief reference may be made to the conditions in which caffeine acts indirectly upon the respiratory organs by its influence upon the heart. The drug is a cardiac tonic and stimulant, acting on the medulla and heart centres, in moderate doses strengthening the cardiac contractions and raising the pulse-rate and the blood-pressure; and its effect is similar to that of digitalis, though usually less marked in steadying an irregular heart, and somewhat uncertain. It is often of much service in acute respiratory affections where heart failure threatens, as in pneumonia and capillary bronchitis; and it has been especially praised by various observers in the treatment of the former disease. It is also well spoken of in atelectatic and hypostatic conditions of lung. It is obvious that its action as a heart tonic as well as a relaxer of bronchial spasm makes it doubly useful in many morbid conditions of the respiratory organs; and it undoubtedly gains additional value by its influence as a general stimulant to nerve centres—in cerebrum, in cord, and in medulla. This is exemplified by the action of guarana, Paraguay tea, kola nut, and yaupon, which contain the alkaloid as their active principle, and is familiar in the experience of all when caffeine is taken in the domestic form of tea and coffee.

Certain ill effects have been described as following the administration of large or even moderate quantities of caffeine. After a dose of 8 grains, Lehmann observed increased frequency of pulse, greatly increased frequency of micturition, and excited mental action, passing into confusion of thought and vision, and finally ending in deep sleep. Two hours after

a dose of 12 grains, Pratt experienced intense physical restlessness, with a very uneasy condition of mind, marked general muscular tremulousness, and increased mental anxiety. This was succeeded by great sleeplessness, with active thinking, and accompanied by frequent micturition. Routh records the case of a man who took by mistake a drachm of the citrate. The symptoms produced were burning in the throat, giddiness, nausea, faintness, numbness, tremors, free diuresis, great cardiac weakness, coldness of extremities, and collapse. The mind was not affected. The patient recovered.

In therapeutic doses a peculiar wakefulness is mentioned as sometimes produced, with increased mental activity—an exaggeration of the nervous restlessness caused in some persons by strong tea or coffee. There is no cumulative action.

The writer has never met with any ill effects from caffeine, except that quite occasionally a condition of wakefulness is induced. This is described as pleasant, the patient feeling very wide awake and mentally active, and free from any disagreeable sensations. As a rule, patients go to sleep without difficulty after their nightly dose of 5 or 10 grains. And no evil effect has been noted in the case of those who have taken large quantities of caffeine for long periods together—sometimes extending over years.

In conclusion, the writer would repeat his conviction of the especial value of caffeine in bronchial asthma and allied affections, and express the hope that his experience may lead to a wider trial of its efficacy.

THE ANTITOXIN TREATMENT OF TETANUS.

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THE present state of our knowledge with regard to tetanus is a conspicuous example of the progress of medical science. During the last twelve years a number of investigators have studied the etiology and nature of this disease, and we now possess definite information on these points, with the result that, whereas it was formerly of frequent occurrence, it is now the exception to meet with a case. This happy change is largely due to the improved methods now employed in the treatment of wounds, especially the general use of antiseptics. In spite of its comparative infrequency, however, tetanus still causes a considerable number of deaths annually in this country. The Registrar-General's Report for 1893 gives the following figures for England and Wales:—Total deaths from tetanus 145; of these 116 were males and 29 females; of the males, 93 were traumatic cases and 23 idiopathic; of the females, 20 were traumatic and 9 idiopathic. The forms of tetanus usually recognised are the traumatic, the idiopathic, the puerperal, and tetanus neonatorum. Of these, the puerperal form and tetanus neonatorum are extremely grave, almost all the cases ending fatally; and the traumatic, which is the most frequent form, is also serious, the combined statistics giving a mortality of about 90 per cent. The prognosis is worse if the injury be a severe one, if the wound be lacerated or contused, and especially if contaminated with earth; it is better the longer the incubation period. Football injuries are stated to be especially liable to be followed by tetanus. The mortality in the idiopathic form is not so high, being about 55 per cent.

It has now been clearly shown that tetanus is an infective disease due to a specific cause, the tetanus bacillus. This organism occurs in nature in the surface soil, in great

abundance in some localities. In traumatic tetanus it is met with at the seat of injury, in the puerperal form it occurs in some part of the genital tract, and in tetanus neonatorum in the umbilical wound. In all probability the cause of the idiopathic form is some unnoticed or forgotten injury of a trivial nature which has become infected by the bacillus. The bacillus can be isolated and cultivated with comparative ease by our modern methods, and induces typical tetanus in animals on inoculation. Its form is that of a small, straight, motile rod which is unable to grow in the presence of oxygen, and having large terminal spores; and although we must come almost daily in contact with it, many factors have to co-exist before it can develop in a wound, and the disease is therefore rare.

The clinical manifestations of the disease are due to the absorption into the general circulation of chemical poisons produced locally by the bacillus, the latter not occurring in the blood or internal organs or in the tissues, the disease being at first quite local.

When cultivated in a suitable manner, the tetanus bacillus forms chemical poisons or toxins in the culture medium. By filtration through porous porcelain the organisms can be removed, and the germ-free toxins induce tetanic symptoms on inoculation into animals, and are of an extremely deadly nature.

The varied modes of treatment and the innumerable remedies which have from time to time been suggested for tetanus sufficiently indicate the gravity of the affection and the failure of all measures for its relief when fully developed. To name some—cold baths, hot-air baths, ice to the spine, mercury, opium, chloroform, chloral, quinine, atropine, calabar bean, curare, antipyrin, and a host of others. Undoubtedly a cure may have followed the use of any one of these, the fact being that a small proportion of cases recover spontaneously, as was pointed out by Sir Astley Cooper in his lectures.

On experimental grounds, the modern antitoxin treatment is by far the most promising, and its discovery we owe in the main to Behring, though many workers

have helped to elaborate it. Behring was investigating the subject of immunity or insusceptibility to infective diseases when he made the remarkable observation that the blood and blood-serum of an animal rendered artificially insusceptible to certain diseases would, if injected into another susceptible animal, not only confer on it a like insusceptibility, but would even cure the disease in question.

The method of preparing the tetanus antitoxin is comparatively simple, though somewhat tedious in practice. An animal, preferably a horse, is injected with the germ-free tetanus toxins in gradually increasing doses, until in two or three months it becomes immune, the blood-serum acquires antitoxic properties, and will entirely counteract the effects of the tetanus poisons.* It is the blood-serum of the artificially immunised animal which is termed the tetanus antitoxin. In practice it is met with in at least three forms: (1) The blood-serum as such is sometimes used; (2) for convenience of keeping, the blood-serum may be evaporated to dryness *in vacuo* over sulphuric acid—1 gramme of the dry substance corresponds to 10 c.c. of the fluid serum; (3) the serum may be precipitated with alcohol and the precipitate dried—Tizzoni's antitoxin. This last is perhaps the most concentrated form.

Let us now consider in detail the antitoxin treatment of tetanus.

Dose of the Antitoxin.—It is difficult to state definitely what should be the dose, for this has varied enormously in the published cases. The smallest dose recorded is 5 or 6 c.c., the largest 167 c.c.,† which was given in one instance by Roux; and it is remarkable that this enormous amount gave rise to no disturbance except urticaria, which is also a frequent phenomenon with the diphtheria antitoxin. Of the fluid serum, which should have an immunising power of at least 1,000,000,‡ I should be inclined to recommend 20—40 c.c. for

* For further details of the method of preparation of tetanus antitoxin see the *Brit. Med. Jour.*, March 2nd, 1896, p. 464.

† 1 drachm = about 3·5 c.cm. and 15·5 grains = about 1 gramme.

‡ This means that 1 c.c. of the serum will protect 1,000,000 grammes of guinea-pig, or 2,000 guinea-pigs each weighing 500 grammes, from the minimal fatal dose of tetanus toxin injected eight to twelve hours afterwards.

the first dose, followed by 10—20 c.c. every six or twelve hours afterwards. Of the dried serum, 1 gramme corresponds to 10 c.c. of the fluid serum, and equivalent amounts are to be administered—that is, 2—4 grammes for the first dose, followed by doses of 1—2 grammes; while Tizzoni recommends 2·25 grammes of his antitoxin for the first dose, and ·6 gramme for subsequent doses. The amount and frequency of the injections of antitoxin are to be based on the urgency and subsequent amelioration or otherwise of the symptoms, it being borne in mind that the shorter the incubation period, the more acute will probably be the course of the disease. Therefore, if the incubation period be short, the larger and more frequent doses should be given, even though the case appears at first to be a mild one. The serum is harmless, and gives rise to no ill-effects, so that the only objection to large doses is their cost. For children the injection may be somewhat diminished in amount, but certainly not below one-half that for adults.

Administration of the Dose.—The serum must be administered entirely by subcutaneous injections. The syringe should be a large one, with a capacity of at least 10 c.c., an ordinary-sized hypodermic syringe necessitating multiple punctures; and suitable forms are now supplied by most of the wholesale druggists. Before using the syringe it should be taken to pieces and boiled in water for ten minutes to sterilise it. The needle may be flamed in a spirit or Bunsen flame with a like object; and the skin to be punctured should be disinfected with 1—20 carbolic lotion, the greatest care being taken to prevent septic infection. If the fluid serum be employed, the requisite amount should be poured out into a measure, previously rinsed with boiling water to sterilise it, and the vial quickly corked again and kept in a cool dark place, preferably on ice; and if, after being opened once or twice, it becomes cloudy from the presence of bacteria, it must be discarded. The dried serum and Tizzoni's antitoxin must be finely powdered, the dose weighed out, and dissolved in 5 or 10 parts, according to convenience, of distilled water, which has been sterilised by boiling for ten minutes. If reduced to an impalpable powder, the dried

serum dissolves readily in water. I have no experience of Tizzoni's, but I believe there is somewhat more difficulty in dissolving it. As heat is fatal to the antitoxin, no warmth must be employed to hasten solution; and syringes, vessels, etc., ought to be allowed to cool after sterilisation before using. The antitoxin is injected subcutaneously into loose cellular tissue, as in the back between the scapulæ, or in the abdomen. Provided strict aseptic and antiseptic precautions have been taken, no trouble will result from the puncture, and no disturbance ever ensues from the antitoxin, with the exception of some urticaria.

Employment of the Antitoxin—(a) As a Remedy.—For the antitoxin to have a fair chance it ought to be administered as soon as the onset of tetanus is probable. Any distinct sign, such as stiffness of the neck, difficulty in opening the mouth, or even considerable pain at the seat of injury, or radiating from it, coming on a few days after the accident without apparent cause, should at once lead us to employ this remedy. Hitherto its cost has been almost prohibitive, but now it can be obtained at a much more reasonable rate.

Behring and others have shown that the amount of antitoxin necessary for cure increases very rapidly with the duration of the disease; so that, if a favourable result is to be expected, it is imperative to employ the remedy as early as possible.

(b) As a Prophylactic.—The wonderful power exerted by the antitoxin in rendering the animal body proof against tetanus suggests whether it might not be wise in some instances to use it before the disease declares itself. For example, a person sustains a lacerated wound which is freely soiled with earth; it is untreated and suppurates, and he comes under observation only when matters have gone from bad to worse. Here the onset of tetanus might not be unlikely later on, and a small injection of antitoxin, judging by the results of experiment, would render this impossible. The amount sufficient to immunise is much smaller than is required to cure, and probably an injection of 5 c.c. of serum would be enough for this purpose. The idea is perhaps utopian, but it is worthy of notice.

Effects of the Antitoxin.—The only effect, if any, which follows the injection of the antitoxin is a favourable one. It is stated that the antitoxin diminishes the duration of the disease; that it reduces the temperature when this is raised; that the pulse-frequency falls, which is always a good sign; and that the attacks of spasms become rarer and weaker. When it fails to cure, it may markedly relieve many of the distressing symptoms.

Value of the Antitoxin Treatment.—Cure has undoubtedly occurred in cases of tetanus treated with antitoxin, but whether due to this remedy or no is a difficult question to decide. I have collected the details of fifty cases treated with antitoxin. Only sixteen deaths occurred, which gives a mortality of 32 per cent. One of the cases was an idiopathic one, and ended in recovery; another was a case of tetanus neonatorum, and ended fatally. The remaining forty-eight cases were all traumatic, though in two or three instances the incubation period was abnormally long. The details of five of these cases are incomplete. Of the remainder (forty-three), twenty-four had an incubation period of eleven days or under, with nine deaths; while nineteen had an incubation period of more than eleven days, with three deaths. If these figures can be relied on, it would seem that the antitoxin treatment has considerably lessened the mortality in tetanus; but the tendency is to report successful cases and not unsuccessful ones, which may render my statistics unreliable. As a slight set-off, however, it is to be noted that two of the fatal cases were practically moribund when the treatment was commenced.

No remedy, except a quack medicine, will cure all cases of the disease, and it is not claimed that every patient will recover under the influence of antitoxin. The antitoxin treatment of tetanus is not likely to be so successful as the corresponding treatment of diphtheria is stated to be, for tetanus only declares itself when the toxins have entered the general circulation, while diphtheria probably may be diagnosed before much of the poison has been absorbed. If, however, the antitoxin treatment will reduce the mortality in tetanus by only one-half, a great victory will have been gained by bacteriological research.

Local Treatment of the Injury.—Local treatment of the wound, if there be one, must on no account be omitted, for it is here that the poisonous substances which produce the disease are elaborated. The affected part should be treated by the use of strong antiseptics, followed by free excision. Tizzoni and Cattani have shown that nitrate of silver, in 1 per cent. solution, is perhaps the most potent germicide for the tetanus bacillus. It is questionable, I think, whether any good results from so severe a measure as amputation, provided the injured part can be freely excised; it is only when circumstances prevent this that amputation should be resorted to. It has been shown experimentally that iodine has a powerful effect in weakening the toxins, and it might be worth while to swab out the wound before excision with an iodine solution, such as 1 part of iodine and 1 part of potassium iodide dissolved in 100 to 200 parts of water.

Adjuncts to the Antitoxin Treatment.—As is usually recommended, the patient ought to be placed in a darkened room, and silence and quietude must be rigorously enforced. Abundance of nutritious and easily digestible fluid food should be administered; and if deglutition brings on an attack of spasms, the patient may be fed two or three times a day by means of the stomach-tube while under the influence of chloroform. If the act of injecting the antitoxin produces spasms, it should also be performed under chloroform anæsthesia. To induce sleep chloral is valuable and may be given freely, and will generally be found preferable to opium.

The Month.

"Quidquid agunt homines."

It must be admitted that the influenza is an *opprobrium medicince* of a very positive kind. The experience of five severe epidemics has brought us no nearer to the discovery of any means of dealing effectively with the scourge. One lesson, indeed, we have learnt, and that is to avoid the mistake which has too often brought British troops to grief in our little wars: of undervaluing an enemy. If the common-sense precautions recommended in the memorandum of the Local Government Board were strictly attended to, no doubt the extent and severity of any particular outbreak would be greatly diminished; but the difficulty is to get people to treat the disease as a serious one. Yet until the full machinery for the prevention of infectious diseases can be brought into play against influenza there is little hope of holding it in check. Of course there are formidable difficulties in the way of bringing it within the scope of the Notification of Infectious Diseases Act; there is the revolting ratepayer to be considered, and then there is the still unsolved problem of diagnosis. At present there is a tendency to regard almost every kind of illness which cannot at once be assigned to a definite category as influenza. This is not a new thing. Mrs. Carlyle, speaking of one of the epidemics in the earlier part of the century, said that she believed the doctors had agreed to lump together several different diseases under the name of influenza to save themselves trouble in diagnosis. By what sign is influenza to be surely known? It is the early sporadic cases for which some really trustworthy and ready means of identification is required. Pfeiffer's bacillus has scarcely yet made out its claim to be the *causa causans* of the disease; and there is no decisive clinical test which will serve for the positive identification of early and mild cases. That is the

real problem to be solved before the notification of influenza comes within the sphere of practical politics.

Such a test is also wanted in order to prevent the real deadliness of the disease from being exaggerated. It is probable that many of the old and weakly persons whose deaths are attributed to influenza are in reality victims of the weather and of the depressing effects of long confinement to the house.

At such a time as the present, when we are in the midst of epidemics and rumours of epidemics, the newspapers publish every kind of rubbish on the subject. Anything in the nature of a medical censorship of the press is, of course, out of the question, even if it were desirable. It is a pity, however, that some check cannot be put upon the "chatter of irresponsible frivolity" on medical subjects. This might at least save the public from being bewildered and misled by all sorts of absurd suggestions and amateur prescriptions. An evening paper has reprinted the prescriptions which an enterprising lady on its staff got from three well-known practitioners during a recent epidemic. The lady "copy"-seeker evidently failed to grasp the fact that she was not looked upon as a genuine sufferer, and got nothing but *placebos* from her advisers, who may possibly have had some suspicion of her real mission. Obviously, however, this is a development of the "new journalism" which might easily be a danger to the public as well as an injustice to practitioners. If the lady journalist really tried to pass herself off as a *bonâ-fide* patient, her publication of the prescriptions was a gross breach of confidence; if she went in her true character, the practitioners in question can hardly be acquitted of the charge of having allowed themselves too easily to be beguiled by the arts of the interviewer.

An instance of the harm which may be done by what Matthew Arnold called "feather-brained" journalism when it meddles with medical matters is afforded by an article which appeared in a recent number of *The Spectator*. That

eminently respectable paper announced, with the solemnity which is its chief characteristic, that influenza is a pestilence more deadly than cholera; and it threw out dark hints about some mysterious and still more terrible disease that might now be travelling towards us from Russia. This kind of thing is worse than nonsense; such reckless statements tend to produce a scare, and thus make people more likely to fall a prey to any infection to which they may be exposed.

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During the past month the profession in this country has lost three members who in their several ways have left their "footprints on the sands of time." Mr. Hulke was an accomplished and many-sided man who wanted nothing but a more conciliatory manner to make him one of the most successful surgeons of his day. At one period circumstances brought me into intimate relations with him, and I had many opportunities of recognising the high sense of duty and the real benevolence which, in spite of a certain asperity of temper, formed the basis of his character. He came of a good old medical stock, several generations of Hulkes having been in practice at Deal, where a nephew of the late President of the College of Surgeons now worthily maintains the family traditions.

Sir William Savory was another man who did not wear his heart upon his sleeve, and who consequently was a good deal misunderstood by those who only came in contact with him in the formal relations of professional life. My first acquaintance with him was at the examination table, and it must be admitted that he was not a sympathetic examiner. Afterwards I had better opportunities of forming a judgment of his character, and I found that when the outer crust of reserve, which made his manner rather chilling to strangers, was broken through no one could be kinder or more helpful. I had personal experience of this when I approached him with a view to enlisting his active support in a literary project of a somewhat more popular nature than those in

which his pen had previously been engaged. Sir William took the greatest interest in the matter, and the result was his masterly article on "Life and Health," which forms the introductory chapter of the "Book of Health," and which to my mind is one of the best things he ever wrote. Those who knew Sir William Savory as he really was can testify that he was not only one of the kindest but one of the most charming of men. His apparent stiffness was, I believe, simply due to nervousness.

Of Dr. Hack Tuke I personally knew less than I did of Mr. Hulke and Sir William Savory, but no one could meet him even casually without being impressed by the sweetness and obvious sincerity of the man. He was a genuine philanthropist, in whose heart the love of humanity in the abstract yet left room for practical sympathy with the sorrows and sufferings of the individual. His books show that he was a man of wide culture and curious reading, as well as an authority on psychological medicine.

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How is it that, with all our boasted progress in sanitary science, the efficient ventilation of large buildings should still be a problem which so frequently baffles the experts? Ventilation "on scientific principles" too often means either a complicated system of draughts, or an ingenious arrangement for the circulation of foul air throughout the building. The House of Commons is a case in point. A Special Committee has inquired, leading experts have been consulted, and a good deal of money has been spent, yet I have within the last few weeks been assured by five or six well-known M.P.'s that they find it almost impossible to keep awake in the House; one of them, indeed, who is a martyr to insomnia, says it is the only place where he can get sleep. The soporific eloquence to which our legislators are doomed to listen may help in producing this result, but it is certain that it is the vitiated atmosphere of the House which is mainly responsible.

The same influences are obviously at work in the House as in the lecture-room described by Oliver Wendell Holmes in the following passage: "So, when the class I was lecturing to was sitting in an atmosphere once breathed already, after I had seen head after head gently declining, and one pair of eyes after another emptying themselves of intelligence, I have said, inaudibly, with the considerate self-restraint of Musidora's rural lover, 'Sleep on, dear youth; this does not mean that you are indolent, or that I am dull; it is the partial coma of commencing asphyxia.'"

It may be true, as the *British Medical Journal* states in an obviously inspired paragraph, that "under no possible combination of circumstances can sewer gas find its way into the air served up for the consumption of our legislators," but it is undeniable that the said air is "served up" loaded with impurities supplied by the legislators themselves. This makes the House of Commons an excellent mart for the exchange of microbes, and doubtless accounts in great measure for the large number of victims which the influenza bacillus always finds among members. It is evident that there is still something wrong, and it is a matter of national concern that a remedy should be found. If the House were properly ventilated, the brains of our legislators would be clearer and their tempers less irritable. There would be more work and less wrangling. Bad air is a fertile source of bad legislation.

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It is a matter for regret that the suggested amalgamation of the principal medical societies into one body should meet with opposition in high places. At the recent annual meeting of the Royal Medical and Chirurgical Society, the President, Mr. Jonathan Hutchinson, referring to what he called Sir Andrew Clark's scheme for the organisation of an Academy of Medicine, said his own ambition did not soar so high, and expressed the opinion that neither the Royal Medical and Chirurgical Society nor the smaller societies would be the gainers by the proposed amalgamation.

I do not quite see, however, that soaring ambition has any place in the matter; the proposal was based entirely on the consideration that the union of the societies would be a convenience to members and increase the usefulness of the meetings. With an Academy such as is proposed, the work, instead of being scattered about in half a dozen different quarters, would be systematised and co-ordinated; so that a man interested, let us say, in intestinal surgery would not have to go to two or three different societies on different evenings, and have to sit through papers on *astasia-abasia* and the pathology of *beri-beri*, diversified by discussions on *symphysiotomy* and the exhibition of cases of *pachydermia laryngis* and *hydradenitis destruens suppurativa*, before the paper which he has come to hear is reached.

It is well, no doubt, not to live within a shell of specialism, and to keep in touch with the general progress of medical science, but this can be done with much less trouble by reading the medical journals than by spending several evenings a week at the societies. Whatever advantage there may be in the present multiplicity of societies—and as far as their ostensible object, the promotion of knowledge, is concerned, I confess I see none—is more than counterbalanced by the great waste of power and time and the want of unity in work and aim which it entails. A Royal Academy of Medicine would be something more than a union of scattered atoms; it would be a body representing the medical profession in its scientific aspects, and as such would be able to advise the Government in matters connected with public health with an authority with which no medical body has hitherto spoken.

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That some otherwise unaccountable collisions and other accidents at sea are the result of defective eyesight in lookout men and officers is, I think, unquestionable. The deputation of ophthalmologists which recently waited on Mr. Bryce to urge the necessity of stricter methods of testing the vision of seamen and railway servants received a reply of the stereotyped official kind. The matter is one of vital importance to

the community, involving as it does the safety of human life and property on a very large scale. The Board of Trade will, it is understood, shortly issue a new code of regulations on the examination of the eyes of the men that go down to the sea in ships, and this is something to be grateful for. It is not enough, however, to frame regulations; the point is that they shall be enforced. Mr. C. H. Leet has over and over again exposed the scandalous manner in which the regulations of the Board of Trade on matters vitally affecting the health of passengers are evaded by certain ship companies, and it is imperative that such evasion should be made impossible.

I agree with Mr. Leet that what is wanted is that the Marine Department of the Board of Trade should have an official medical adviser analogous to the Directors-General of the Medical Departments of the Army and Navy. All ship surgeons should be directly in touch with the Board of Trade through such an official head; this would be a guarantee that the vision tests and other sanitary requirements of the Board would not be evaded or carried out perfunctorily. Some striking examples of the extent to which this evasion of the regulations of the Board of Trade is carried by some of the companies are given in a paper by Mr. Leet on the Medical Department of the Mercantile Marine, published in the Transactions of the Sanitary Institute for 1894. I heartily wish him success in his public-spirited efforts to remedy the present unsatisfactory state of things.

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A recent number of that useful periodical the *Clinical Journal* contains a report of an excellent lecture by Dr. Gowers on the treatment of the muscular contraction met with in many paralyzing maladies of the spinal cord and of the nerves. This, Dr. Gowers tells us, is due especially to posture, even paralysis being effectual only by inducing a certain posture. If the attachments of a muscle are permanently and constantly approximated in consequence of posture, the changes which are always going on in every structure and tissue of the body alter the muscular fibres and

the interstitial tissue in accordance with the diminished length, so that after a time the muscle cannot be extended. Similar contraction is met with as the result of posture determined by pain, and also of posture determined by simple comfort. For the purpose of preventing such contraction as it affects the muscles of the leg, Dr. Gowers has devised a plan by which traction can be exerted from the upper part of the leg near the knee, which has been perfectly successful. The new feature which the plan embodies is this—that the part of the apparatus for the leg *from* which the traction is made is continuous with that for the foot *on* which the traction is made. Instead of the pull being from the leg itself, it is from the apparatus that the force acts on; continuous traction from the leg itself—which, however slight, becomes unendurable from persistence—is thus avoided. The apparatus can be seen at the shop of Mr. Hawskey, the instrument-maker, of Oxford Street; but it can easily be made by any practitioner for himself.

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Now that the meeting of the Twelfth International Medical Congress at Moscow has been fixed for 1897, it has been decided that the International Dermatological Congress shall be held in the first week of August, 1896. There has, owing to one cause or another, been some confusion as to the date of the latter gathering, but the arrangement above mentioned may be taken as definitive. It is expected that a very large number of leading representatives of dermatology from the Continent and from America will be present, and the meeting is likely to be a great success from the social as well as from the scientific point of view. Practitioners desiring to take part in the proceedings should communicate with the Secretary-General, Dr. J. J. Pringle, 23, Lower Seymour Street, Portman Square, W.

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Something has been done in recent years to redress the grievances of the army doctors; but these officers do not yet seem to be prepared to agree with Pangloss, that "all is for

the best in this best of all possible worlds." Some of their grievances are a trifle mysterious to the non-military mind; but it is clear enough that they are sometimes treated with a high hand by the War Office, and that the combatant officers are inclined to swagger offensively in their relations with them. With regard to the latter grievance, it seems to me that if a man does his duty and respects himself and his profession, he need not trouble about the bad manners of the warriors in question. His relations with the War Office are on a different footing. Questions on this subject have been asked from time to time in the House of Commons, and it was promised that inquiries should be made. From Mr. Woodall's reply to Mr. Hanbury a week or two ago it would appear that nothing had come of all this. The Secretary of State had, one was led to infer, found everything as it should be in the Director-General's Office. Now, as regards Sir William Mackinnon personally, there can be but one opinion among those who have the privilege of his acquaintance: he is an upright, honourable man, full of zeal for the efficiency of the public service and the credit of his Department, and careful of the interests of the officers under his authority. But the complaint of the army doctors, as I understand it, is that the Director-General is not *de facto* the head of his own Department; there is, it is alleged, a power behind the throne in the person of a War Office clerk who actually rules the roast. The medical officers of the Army Medical Department object to being under the thumb of an official who is neither a member of their own profession nor an officer of the Army. How disproportionate a share in the administration of the Department is in the hands of this War Office clerk may be seen from the following list of the matters within his special sphere of authority, which I take from a little official book entitled "The War Office List and Administrative Directory for the British Army": "Administration and Correspondence of Army Medical Staff; Reliefs; Estimates; Appointments; Promotions and Retirements; Services of Medical Officers; Medical Boards; Arrangements for Competitive Examinations of Candidates, and further Examinations of Officers previous to Promotion; Female Nursing Service; Appointment of Officers of Volunteer Medical

Staff Corps and Army Reserve; Examination of Bills of Private Practitioners."

In short, it is not too much to say that this War Office clerk has the career of the officers of the Army Medical Department practically under his control. He it is who keeps the roster and manages the exchanges. Such large powers are obviously liable to be abused. Even granting that a War Office training purifies the passions and renders those who have had the advantage of it superior to the weaknesses of fallen mankind, it is hardly right that any official should be placed in a position where he is exposed to such temptation. I wish it to be clearly understood that I am arguing this case altogether on abstract grounds. Of the War Office clerk in question personally I know nothing; it is not the man, but the system, I am attacking. The position which he holds should undoubtedly be filled by an officer of the Department.

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The medical practitioners of Cork have my fullest sympathy in their struggle with the Benefit Societies: it is a pity their example of uniting in defence of their interests is not more widely followed than it is by the members of our profession. The only unsatisfactory feature in the affair is that the societies should have been able to import four or five medical men from outside who have accepted the terms they offer. This kind of thing makes one disposed to agree with Sir Walter Foster when, in receiving the deputation from the Incorporated Society of Medical Officers of Health the other day, he described the medical profession as "a broken and disorganised body." Until it is able to show an unbroken front to the enemy it will never hold the position which, according to Mr. Gladstone, should by right belong to it.

While regretting that any practitioners should have been found willing to take the places of those who were striving to obtain from the Benefit Societies terms more in keeping with the dignity of the profession, I cannot but deplore the fact

that one of the imported practitioners was attacked by medical students and abused as a "blackleg." This kind of thing is simply disgraceful, and is only likely to damage a good cause in the eyes of the public.

An amusing feature in this controversy between the doctors and the Benefit Societies at Cork is the fine indignation with which the artisan class views the adoption of their own tactics by their opponents. The reports of the meetings of the members of the Benefit Societies were full of the fiercest invective against the doctors for claiming the "living wage" the working man apparently looks upon as his own peculiar right. They howled about "coercion," "boycott," even "blackmail"! The doctors were vilified for attempting to "make laws for the societies," and their legal right to ask for a more reasonable scale of pay was gravely called in question. The situation reminds me of the scene in "Barnaby Rudge," where Dennis himself is about to undergo the tender mercies of Jack Ketch, and his comrade cries, "See how the hangman feels it when it comes home to him!"

Public Health.

THE POLLUTION OF RIVERS.

POLLUTION of rivers is a relative term the force of which varies according to the standard expressed or understood. The Thames is unpleasantly polluted from the standpoint of the London water-drinker, who has a growing suspicion that it would be better if the towns and villages higher up the river could be persuaded to exercise a little more care in the disposal of their sewage; but there is a world of difference between its clear waters and those of the open sewers which flow through the manufacturing districts of Lancashire and Yorkshire and the Midlands.

Strictly speaking, no river is pure in the sense of complete freedom from suspended and dissolved organic matters. It has to drain the area allotted to it by nature, and must therefore convey away all the surplus water, clean or dirty, that the district produces. If there were no population to complicate the question, there would still be some fouling of streams by animal and vegetable organic matter, and surface washings after rain, not to mention the drainage and soakage from land. Springs, it is true, are often organically pure, owing to the completeness of the filtration which their waters have undergone; but moorland streams, beginning far above any cultivated ground or habitation of man, contain from the first abundant organic matter which the chemist has to explain away in reporting them as good and wholesome for drinking purposes.

Manifold pollutions of a much more serious kind arise in urban or even agricultural districts. Drainage and soakage from cultivated land, from burial grounds, from farmyards and outbuildings, are added to the list. Cesspools and other objectionable contrivances may leak or overflow in such fashion as to contaminate streams directly or indirectly, even if there be no drains to carry the sewage still more directly into places where it should not go. Even the purified effluent of a duly qualified sewage farm must of necessity be discharged ultimately into some watercourse or other, and although it ought not perhaps to be counted among the

pollutions, its organic purity is not of a very exalted order. In many parts of the country the pollution by sewage, gross as it is, is dwarfed and overshadowed by that due to trade sources, from the comparatively harmless washing of sheep in rural streams to the foul effluents from dye-works and tanneries. Then again our much-abused rivers receive more or less solid refuse, of varying degrees of nastiness, from every town and village through which they pass.

Nevertheless the pollutions are not allowed to have it quite all their own way, nor is the impurity at any given point equal to the sum of all the impurities contributed at places higher up the stream. There are forces at work which tend to restore the stream to a state of comparative purity. One of these is the inflow of clean water from unpolluted sources. Another is the subsidence of suspended particles, forming a deposit in the bed of the stream liable to be scoured forwards in time of flood. But apart from these mechanical agencies, rivers which are not polluted beyond a certain point undergo purification of a different kind by the removal of organic matter. Fish and aquatic plants help in this work, but peculiar interest attaches to the oxidation which is effected by various forms of microbial life in water, in the presence of oxygen and under the influence of light. Abundance of oxygen in the water is essential, and hence the process is most rapid and complete where the impurity is relatively small in amount compared with the volume of water with which it is mixed, and where the stream is shallow, rapid, and broken. There is the widest divergence of opinion as to the limits of this beneficial process. High authorities have contended that no river in England is long enough to get rid of sewage introduced at its head, while others believe that the addition of sewage into a pure river matters little to consumers of the water down stream if the sewage does not form too large a fraction of the volume. They think that everything of importance is speedily oxidised into harmlessness. As regards dissolved organic matter, it seems probable that both parties are right, the question being one of degree or proportion; but much doubt remains upon the more important point whether pathogenic organisms are destroyed in like manner. If typhoid excreta are cast into a river at A, is there any material risk to a person drinking the water at B, ten or twenty miles lower down? The recent investigations of the Local Government Board, particularly in the Tees Valley epidemic, have led to an affirmative conclusion; but the Royal Commission on the London Water Supplies held it to be not proven, because the sewage-polluted waters of the Thames and Lea had not been shown to cause any unusual incidence of typhoid

among the Londoners so supplied. All are agreed that there is sufficient danger to render it essential that the water should at all events be filtered with uninterrupted efficiency before distribution to the consumers, and some day, perhaps, the manner of filtration will no longer be left to the discretion of water companies. In the densely-populated manufacturing districts, where the pollution of rivers is greatest, their foulness is aggravated by certain special conditions. Fish, aquatic plants, oxygen, and even nitrifying organisms are out of the question, and putrefactive changes take place. The deposited organic matter, or sludge, in the bed of the stream and on its banks, also putrefies, adding to the effluvia, and it is no uncommon sight to see bubbles of gas rising to the surface. This occurs especially where the flow is sluggish, and most of all in mill-dams and in the ponds above weirs. It is a common practice to flush out the sludge from mill-dams by raising a sluice; but this remedy, though effectual enough so far as its immediate purpose is concerned, only makes matters worse down below. One indirect result of the increasing pollution of streams has been to bring about a greater demand for other supplies of pure water, for trade as well as domestic purposes, and to meet this demand unpolluted tributaries in the uplands are intercepted and diverted from the rivers, to be returned later on in a much less clean condition.

All, or nearly all, of these pollutions are quite illegal, and special Acts of Parliament have been directed against them without much success. The principal statute dealing with this subject is the Rivers Pollution Prevention Act of 1876, but its many loopholes and saving clauses have lessened its practical value. Sanitary authorities, mindful of the proverb which speaks of dwellers in glass houses, have not been in any hurry to prosecute their neighbours up-stream for doing what they themselves were doing in their turn, and manufacturers have had equally good reason for non-interference. Much has been done, it is true, by successful prosecutions here and there, and by the steady pressure which the Local Government Board has exerted, but nevertheless a considerable number of large boroughs continue in the year of grace 1895 to discharge crude sewage into the nearest river, and of only a small minority could it be honestly said that any satisfactory degree of purification is effected. Providing the necessary works for treating sewage is one thing, and maintaining a continuous efficiency of working is another. Sewage works are entitled to no holidays, but their managers are but human; and as for many sewage effluents on Sundays and during the hours of night, the less said the better. A great deal of untreated sewage is discharged through "storm over-

flows," diluted with much rain-water when these safety-valves are fulfilling their proper purpose, but occasionally undiluted.

If the purification of sewage is an unfinished task in the average English town, that of foul trade effluents is far more so. The difficulties of treatment are greater and more varied, and the legal loopholes for offenders wider. Recent experience in Lancashire goes to show that the difficulties are not insuperable, and that in the purification of trade effluents, as in everything else, where there is a will there is a way.

What has been wanting for so long is a powerful controlling authority, free from temptation to regard river pollution leniently and sufficiently local to be fully cognisant of what is being done or left undone as regards sewage and trade effluents. To some extent the provincial county councils, brought into existence by the Local Government Act of 1888, have supplied this want. They have power to act with regard to river pollution, and they have no sewage or trade effluents to turn into any stream. Some of them have taken vigorous action, others have done little or nothing; but, on the whole, the last five years have seen a very great advance in the direction of purifying foul rivers. In Lancashire the question has been forced into special prominence, owing to the necessity of cleansing the foul streams which feed the Ship Canal. In Lancashire, Cheshire, and Yorkshire Rivers Boards have been formed, representative of the county councils and county boroughs, and have undertaken the herculean task of keeping under supervision the thousands of points of pollution along hundreds of miles of major and minor streams. It is fitting that the work should first be attempted where the rivers are foulest; and, if the Mersey and Aire can be cleansed, there should be no difficulty with the Thames or Severn.

What effect have dirty rivers upon the public health, apart from their unfitness for drinking purposes? Very much the same, probably, as any other source of evil smells of like intensity and permanence. There is abundant evidence to show that river effluvia may cause nausea, diarrhoea, and digestive disturbances generally, among persons exposed to their influence. This in itself implies some interference with health, some lessening of resistance to disease and of power of throwing it off. The popular idea that pestilence is bred by such effluvia has, no doubt, some justification of this kind, particularly as regards predisposition to certain zymotic diseases. The tendency is one which scarcely lends itself to statistical proof on a large scale, there being no means of obtaining the requisite records of popula-

tions, sickness, and deaths. Death rates and sickness rates in towns, villages, or even wards would not suffice for this purpose; we should need a classification according to the distance in feet or yards from a river, and then to have some assurance of "other things being equal," to a reasonable extent. If this could be contrived, we should, no doubt, find that dwellers by the side of a foul stream are more liable than their neighbours to suffer from such diseases as enteric fever and diarrhoea, and less likely to recover from them. Upon *a priori* grounds alone it may fairly be contended that, whatever may be the health-condition of a given population living under given conditions near a pure stream, it would be altered for the worse if the stream were to become polluted and offensive. The converse change, which is now being attempted in many districts where it is sorely needed, is to be counted as a material gain to the public health, as well as to decency and sightliness and the amenities of life generally.

A Medico-Literary Causerie.

THE EARLY HISTORY OF THE SURGICAL PROFESSION IN FRANCE.

THE causes of quarrel between the physicians and surgeons were manifold, but the root of their mutual antagonism was the impossibility of maintaining in practice the artificial distinction between medicine and surgery. It was inevitable that the surgeons should poach on what the physicians claimed as their special preserves; and the professional jealousy thus engendered naturally did not tend to make the doctors more friendly towards the despised handicraftsmen who threatened to become their rivals. When the University of Paris affiliated to itself the Faculty of Medicine, it refused to recognise the surgeons as forming part thereof, on the ground that they were mere mechanics. While repudiating the surgeons as its children, however, the Faculty insisted on treating them as its servants. On the other hand, the surgeons contended that the Faculty, by excluding them from its bosom, had forfeited the right to meddle with their affairs. Nevertheless, the Faculty persisted in attempting to impose all kinds of vexatious restrictions on them. There were continual complaints of surgeons presuming so far as to prescribe clysters, and even internal remedies. When the works of Ambroise Paré were published in the fine folio edition in 1575, the Faculty attempted to have the work suppressed and the author punished because he had ventured to refer to the treatment of fevers. It needed the personal authority of the King (Henri III.) to save his surgeon-in-ordinary from being offered as a sacrifice to the outraged dignity of the Faculty.

In its eagerness to crush an enemy who was becoming more and more powerful, the Faculty stooped to an alliance with the barbers. The physicians doubtless thought that they could play off these humble handicraftsmen, who by no possibility could be their rivals, against the insubordinate and aggressive surgeons. A formal treaty of alliance between the physicians and the barbers was accordingly concluded in 1505. The latter were recognised as pupils of the Faculty, and it was provided that their apprentices should be examined by doctors of the Faculty. On their side, the barbers took an

oath never to prescribe internal remedies, and never to practise surgery except under the direction of doctors of the Paris Faculty. On these conditions the physicians undertook to instruct the barbers, to secure the practice of surgery to them, and to uphold them on all occasions.

For a long time the barbers behaved with proper submission to the academic mother who had adopted them, but by-and-by they "waxed fat and kicked." They conceived the idea of making themselves independent of the Faculty, and even of setting up an opposition school of their own which should confer academic honours similar to those of the Faculty. Their vaulting ambition was checked by a decree of Parliament passed in 1593, which peremptorily limited their practice to the treatment of "boils, bumps, and aposthumes." In spite of this, there was almost as much friction between the Faculty and the barbers as there had been between the physicians and the surgeons. The repeated disputes which were brought before the Parliament finally led that body to ask the Faculty for a definition of surgery. The answer was the famous formula, "Surgery is a handicraft limited to dieresis, synthesis, and exeresis."*

Meantime the surgeons had worked strenuously to force their way into the University. In 1576, in a general assembly of the University, they made a formal demand to be admitted to form part of the Faculty of Medicine, and, as such, to receive the blessing of the Chancellor, to give public lectures, and to enjoy all the privileges appertaining to members of the Faculty. These rights had already been granted and confirmed by decrees passed by several kings of France, but these decrees had simply been ignored by the University. The demand of the surgeons led to a "free fight," in which the physicians remained masters of the field, and made the University authorities reject the demand of the surgeons.

Beaten with the weapons of the flesh, the surgeons turned for help to the spiritual power. In 1579 they obtained from the Pope a Bull in which their right to receive the Chancellor's blessing was recognised. The University appealed to Parliament, but the surgeons succeeded in getting the coveted blessing on several occasions. The privileges granted to the surgeons by Henry II., Charles IX., Henry III., and Francis I. were confirmed by Louis XIV. in the year of his accession, and the decree refers to them as "the Professors of the College and Faculty of Surgery," and as forming part of the body corporate of the University of Paris. This would seem to be clear and decisive enough, but the Faculty set the

* *Dieresis* = division or separation of parts; *synthesis* = the union of parts that have been divided; *exeresis* = extraction or amputation.

ordinances of the Grand Monarque at naught, as they had those of his predecessors.

The ever-growing arrogance of the Faculty ultimately had the effect of leading the surgeons and the barbers to make common cause against it. The prouder spirits among the brethren of Saint Côme strove against a renewal of the detested partnership with the barbers, but the advantage of union against the common enemy was too solid to be lost for the satisfaction of a mere sentiment, and the two corporations were made one by royal decree in 1655. Under this arrangement the King's head barber was honorary Provost of the Company. Malgaigne calls this new alliance of the surgeons with the barbers "an unparalleled disgrace"; but it must be remembered that by this time the "barbers" had so far shed the slough of their original trade that in 1637 a new corporation of "shaving barbers" (*barbiers barbants*) had been called into existence to take the place of the old fraternity, which had risen into the higher sphere of surgery. The *mésalliance* between the surgeons and the barbers was therefore not so great as at first sight appears, and the surgeons gained the support of the royal barber, an official whose influence with the King was a factor which not only university dons but powerful politicians often had to reckon with.

The Faculty, which was practically ignored in this arrangement, was not unnaturally indignant at seeing the mechanics whom it had raised up as rivals to the surgeons thus go over bag and baggage to the enemy. In 1657 it brought an action against the united corporations, demanding either that the union between the surgeons and the barbers should be annulled, or that the rights which it claimed to have over the barbers should be extended to the surgeons. The trial lasted three years, and gave an opportunity for the ventilation of all the ill-will and jealousy which had been seething between the physicians and the surgeons for three centuries. After an enormous outpouring of legal and academic eloquence, and all manner of intrigue and chicanery, the Parliament finally decided on February 7th, 1660, that the united corporations of surgeons and barbers should remain subordinate to the Faculty of Medicine, according to the contracts of 1577 and 1644. The surgeon barbers were forbidden to use the style and title of Bachelors, Licentiates, Doctors and College, and were restricted to those of Candidate, Master and Commonalty. They were also forbidden to give public lectures and to hold public acts, and the dearly-prized privilege of wearing cap and gown was taken from them. The Faculty was thus victorious along the whole line; as that malicious old pedant Gui

Patin exultingly said, "St. Luke had beaten St. Côme." The humiliation of the surgeons was complete, the word "Collegium" was erased from their building, and the chair of state in their public hall, where Ambroise Paré had sat, was taken away.

The surgeons, however, were not so thoroughly crushed as their implacable adversaries fondly believed. The personal obligations of Louis XIV. to the art of surgery made him favourably disposed towards its professors. In 1668 the Wardenship of the united corporations of surgeons and barbers was transferred from the King's barber to His Majesty's chief surgeon. In 1686, when the King was operated on for fistula, the physicians Fagon and d'Aquin were mere onlookers, the post of honour being occupied by Félix the surgeon. The latter received a very large fee and had a patent of nobility conferred upon him. His successor, Maréchal, who was also ennobled, obtained from Louis XV. letters patent creating five professorships at St. Côme. The Faculty, enraged at this violation of its privileges, attempted to take possession of the new chairs by force: a solemn procession of doctors went to St. Côme and demanded admission, but had to retire crestfallen amid the jeers of the crowd who had assembled in the hope of seeing a little unprofessional blood-letting by the learned combatants. The Faculty appealed to the Parliament, but in vain.

A further most important step towards the emancipation of the surgeons was the foundation of the Académie de Chirurgie in 1731. In 1739 the number of pupils at St. Côme was so great that the number of professorships had to be doubled. In 1743 a royal declaration restored to the surgeons all the rights and privileges of which they had been deprived in 1660. The Faculty of Medicine continued to clamour for what it called its "rights," but the surgeons were too strong for it, and in 1750 the King issued a decree expressly intended to end the whole controversy. By this enactment it was finally decided that the Faculty had no power to exact either oaths or fees from the surgeons, and it was forbidden to interfere with them in the practice of their profession. In 1774 Louis XVI. laid the foundation stone of a new college of St. Côme. Then came the Revolution, and in 1792 both the Faculty of Medicine and the brotherhood of St. Côme, with all the other institutions of old France, were buried in one common grave.

Reviews of Books.

The Pathology of Mind: A Study of its Distempers, Deformities and Disorders. By HENRY MAUDSLEY, M.D.
London: Macmillan & Co. 1895. Price 15s.

THIS book, though retaining the title of an earlier work, is virtually new, for the whole has been recast and the text entirely rewritten, and as it stands now it may be said to present the ripe views of the observations and reflections of this esteemed writer. As such, it is satisfactory to note that it is worthy of his great reputation, and it will occupy in the literature of this subject a position that is in many respects unapproached by any other work in any language. The treatment of the subject is broad and philosophic. The descriptions are fresh, unhackneyed and vivid, and the numerous comments on man and the affairs of men combine wisdom and satire so agreeably that it will be read by all with the keenest pleasure.

The subject has been divided into four parts, the first of which deals with the nature and causation of insanity. Insanity of the mind has been defined by the author as meaning "such derangement of the leading functions of thought, feeling and will, together or separately, as disables the person from thinking the thoughts, feeling the feelings, and doing the duties of the social body in, for, and by which he lives." Thoughts, feelings, and acts, however, which are natural and avowedly sane at one time and in one medium, are unnatural and pass for insane at another time and in another medium.

In speaking of insanity as disease of mind, the author finds a difficulty not only in defining exactly what is disease, but also in obtaining a clear and exact idea of what mind means. The notion of a spiritual entity which exists and can be diseased apart from the body he regards as pretty well obsolete, and he suggests that if instead of the term "mind"—a metaphysical point nowhere—the term "mental organisation" be substituted, more definite notions may be held. What, then, is mental organisation? The key of its structure and function is a simple reflex or excito-motor act, with its afferent and efferent nerve and central nerve cell. By multiplying cells and fibres, and by the complication of tracts and connections, the most complex mental functions are formed.

The reflex nature of the complex processes of reason and intelligence are, however, masked by the presence of consciousness, but consciousness has nothing to do with the actual work of mental function; it is the adjunct, not the energy, at work, and the brain performs its functions without any extraneous metaphysical help.

From these reflections it may be concluded that at the bottom of all mental impairment there is a fitly disordered structure of some kind or other.

Coming now to a consideration of the causes of insanity, the author regards the individual as the product of the human past, of the society and family of which he is a member, and of his own special experiences, and traces to influences of a social, family, and individual nature many causes of mental derangement. The stress of modern civilisation he does not think has materially increased insanity, and the apparent increase shown by statistics arises principally out of successive legislative enactments for the better care and more stringent registration of the insane. The intellect suffers more from rusting in disuse than it ever does from its utmost use; but mischief may be done, not so much by mental overwork in itself as by worries and anxieties attending it, and the wear and tear of emotion. One thing is pretty certain: if insanity is on the increase among civilised peoples, the increase is due more to their pleasures than their pains—to idleness, luxury, and self-indulgence.

Dr. Maudsley emphasises two points in connection with hereditary predisposition. In the first place, actual madness is not inherited, since no one is born mad. The individual only inherits a predisposition to it, which may be either strong or weak. In the second place, he who inherits a predisposition to insanity does not necessarily get it from a parent who happened to be insane. He gets it from where his parents got it—from the insane strain of the family stock. An insane strain in a family may, however, be worked out by a propitious union in marriage with a sound stock; and in the individual insanity may be averted by transplanting him into new and different social conditions from those in which the insane strain was bred. The transmission of acquired characters he acknowledges is the least likely of any to occur, but he does not see why mental character and biases should not be inherited, because a cat that has had its tail cut off has not had tailless kittens. The developing part of a man is his brain, and there is enough evidence to suspend the denial, if not to warrant the opinion, that acquired mental character may be inherited.

The author concludes the sociological division of causes by

considering several types of insane temperament, such as the extremely suspicious, the intensely egotistic, the keenly sensitive and irritably impatient, the excessively nervous, the outrageously vain, the shy, and the criminal. On the physical side, he finds these cases of mental deformity usually lack, as the basis of their being, a good sound animality to hold in salutary check the vagaries of an over-sensitive and unstable nervous system. The so-called moral causes of insanity, as usually enumerated, he considers too vague and void to have any scientific value, and that in reality it is impossible to separate them from physical causes of disorder, seeing that every moral feeling has its physical basis.

Under the heading of the pathological causes of insanity he describes, in the first place, the effects on the organism of its external stimuli. These effects are modified by the obvious fact that all persons have not the same scale of natural sensibilities, and therefore do not live in exactly the same external world. Besides differences springing from sex, age, and civilisation, there are the broad differences of constitution denoted by the temperaments—the sanguine, the bilious, and the neurotic.

In the second place he describes the organic causes of mental disorder, such as the flow, quality, and quantity of blood in the brain, and the state of other organs in the body. The quality of blood he regards as of most moment, for here there is wide scope for many mischiefs. Waste products, or even slightly altered nutrient products, may become virulent poisons; and how quickly and seriously the brain is affected by vitiated blood can be shown experimentally when alcohol or belladonna is introduced into it. Of especial interest in this connection is the insanity that occurs in myxœdema, and the remarkable improvement, both of body and mind, which may go on to complete recovery, following the administration of the thyroid gland of a sheep.

Another series of organic causes are due to sympathy or reflex action. As every bodily organ is represented in the brain, directly or indirectly, it is plain that disorder of it may produce cerebral effects through the nerves; and he considers that but for the absolute and gratuitous separation made of mind from body, the sympathies of body and mind need not have been the mysteries they have been.

Finally, whether disorder of the mental organisation be due to impressions from without, or to bad blood, or to organic derangements, it must express itself by discharging outwardly in three principal ways: trophic, motor, and ideational. Derangements of nutrition and secretion are thus produced; but the most familiar fact of a disordered

mental state is disordered movement. The author considers the classification of movements into voluntary and involuntary as crude and artificial; and he regards will as not being an abstract unity, constant and definite, but as particular for each act. This important conclusion enables him to trace the connection between movements of every grade, from the fully conscious and voluntary to the convulsive. The ideational expressions of insanity are delusions, and they vary in character as the predominant mood is bright or sad. The specific form of each particular delusion may sometimes be traced—as, for example, sexual delusions to disorder of the reproductive organs; and it is probable that the painful feeling of mental impotence in melancholia and other delusions are due to derangements of the muscular sense.

Having informed the reader by this lengthy introduction of his special views of mind, which are apparently founded on those of Mr. Herbert Spencer, the author devotes the second part of his book to the symptomatology of the insanities. For this purpose he has adopted a very simple classification, amounting practically to melancholia, mania, deformities of mind, and dementia. The well-known symptoms of definite forms of disease can hardly be described at the present day in an entirely original manner; but here they have at least been vividly portrayed in language so new and picturesque that we are much mistaken if future writers, less skilled in observation and less gifted with words, do not draw more than inspiration from these pages.

Melancholia he separates into two great divisions—simple melancholia, or profound mental depression, without any, or at least proportionate, disorder of thought; and melancholia with delusion, in which the sad feeling is accompanied by a fixed sad idea or set of ideas. A further stage of mental dissolution is reached in acute or agitated melancholia, and a final one in acute delirious melancholia, a fatal disease in which there is an acute panic of painful emotions. We think more attention might have been devoted to the phenomena of melancholia with various degrees of excitement, for not only are they important clinically, but they resemble and verge on mania in so peculiar a manner that they have always proved difficult to accommodate in classifications such as the one adopted. Stupor, so frequently associated with melancholia, is described under this heading; and suicidal feelings, which occur so constantly, and homicidal feelings, which occur more rarely, have both received special treatment, so important are these symptoms from a social point of view.

Mania is next divided, in much the same manner, into simple mania with exaltation of feeling and thought alone,

acute mania, and acute delirious mania. Dr. Maudsley's special views of the will enable him to suggest a reasonable explanation of the progressive dissolution of conduct and the motor functions in this disease, or *devolution*, as he has christened it. Under chronic mania he describes what many would call monomania, consecutive to acute insanity, and what is in reality a variety of dementia. The type is quite distinct and has been recognised for over half a century, but such is the unsettled state of our terminology and classification!

The chapter on "Insane Deformities of Mind" deals with the varieties of primary systematised insanity, which are the mad maturities, so to speak, of varieties of insane temperament. A study of these has been fashionable in recent years, especially in France, but also in Germany and America—in the latter countries under the uncouth and ill-conceived term "paranoia." This is the first time they have received so important a recognition in a classification in this country, and the descriptions are the best we have.

The last chapter is devoted to "Conditions of Mental Weakness"—firstly, idiocy and imbecility; and, secondly, dementia. Dementia has been subdivided into primary or acute and secondary or chronic, which is usually sequential and terminal to an acute attack of insanity. These two forms of dementia have no real connection with one another. The symptoms of the one are the product of an acute disease which runs its course and is fairly curable; the other the permanent results of the ruin and desolation caused by any severe brain-storm—the one a point of departure, the other of arrival. Moreover, in nowise do the symptoms of primary dementia differ from those of stupor—it is a primary stupor—either in nature or these descriptions, and the misleading term should be abolished, or only applied, as the French apply it, to senile, alcoholic, or apoplectic dementia.

The third part of the book is devoted to a description of the "Clinical Varieties of Insanity," including adolescent, puerperal, climacteric, and senile insanities, as well as an interesting chapter on the "Insanity of Children." Very excellent and graphic accounts are given of general paralysis and epileptic insanities, though in the latter we miss a reference to the views of Dr. Hughlings Jackson on Automatism. A concluding chapter is devoted to the "Alcoholic Insanities"—not quite up to the high average of the others—and to "Insanity associated with Phthisis and Gross Brain Disease." It is interesting to note that most of this section of the book is the contribution of accurate modern observers to the science of psychiatry. It is only about thirty years ago that Skae proposed his somato-etiological classification, and

suggested that these were types or families of mental disease. At first, in his original editions, Dr. Maudsley felt constrained not to admit them in his descriptions, but the accuracy of many of the types and the practical utility of regarding insanity in this way have won his recognition. Not that he accepts these views wholesale, for it appears that his mention of phthisis and insanity is principally to express his dissent from many opinions held by Dr. Clouston, and to suggest, with great probability, that not phthisis but a certain neurotic temperament is the real etiological factor of so-called phthisical insanity.

The last part of the book—a very short one—is devoted to a very general survey of the broad features of pathology and of the principles of treatment, both preventive and curative. The fact that a paragraph of about ten lines sums up our actual knowledge of diseased nerve-cells betokens its general nature. This brevity is natural in a work so philosophic as this, as there is no real unity between the morbid anatomy of the brain and the symptoms of mental disease, the two subjects as yet being, unfortunately, best treated apart from one another.

There is no doubt that this book will have an assured position as a classical and standard work, and it has not only added to the reputation of the author, but it has shed lustre on the English school of morbid psychology. So simple is the language employed and so broad the treatment that it can be read with intelligent interest by any educated person, be he lawyer, doctor, or clergyman; and no one can have thoughtfully perused the author's opinions, tinged though they be with a cynical materialism, on all subjects of human interest, from love-making and babies to religion and the conventionalities of society, without being wiser and nearer the truth. It need scarcely be added, in conclusion—as those familiar with Dr. Maudsley's other works will already be aware—that this is written in an English style so graceful as to make reading a luxury, but never before has he clothed his ideas in a fancy more luxuriant.

1. *The Elements of Pathological Histology, with Special Reference to Practical Methods.* By DR. ANTON WEICHELBAUM, Professor of Pathological Anatomy and Director of the Institute of Pathological Anatomy in the University of Vienna. Translated by W. R. DAWSON, M.D. (Dub.), Demonstrator of Pathology in the Royal College of Surgeons, Ireland. Price 21s. net. London: Longmans & Co.

2. *A Course of Elementary Practical Bacteriology, including Bacteriological Analysis and Chemistry.* By A. A. KANTHACK, M.D., M.R.C.P., Lecturer on Pathology and Bacteriology, St. Bartholomew's Hospital; and J. H. DRYSDALE, M.B., M.R.C.P., Casualty Physician, St. Bartholomew's Hospital. Price 4s. 6d. Macmillan & Co.

WE have already in England many works on pathological anatomy, and of these several, such as those of Hamilton Sims Woodhead, and Macalister's translation of Ziegler's work, are of the first rank in point of excellence; none the less, it is a matter of great satisfaction that we have a good translation of Professor Weichselbaum's work on the same subject. Author, translator, and publisher are alike to be congratulated. The matter of the work is thoroughly sound, and so treated as to be readily digested, even by busy men. The many illustrations are, in their different ways, models of clearness and instructiveness. The coloured plates in the frontispiece, representing preparations of the blood in ague, splenic and myelogenic leucocythæmia, may be mentioned as especially beautiful and true to nature. As the author states in the preface, adequate importance is given to etiology, and thus the book includes a brief but clear account of bacteriology. And it happens opportunely that the handbook of Kanthack and Drysdale can be included in this notice. It is intended for the laboratory, whilst the work previously referred to claims an accessible place in the library. Drs. Kanthack and Drysdale have produced a work which will be highly welcome to teachers and to students of bacteriology. The subject has now passed the stage in which illustrations of bacilli and cultures are required in a book on practical bacteriology. Every modern book of general pathological anatomy contains pictured examples of the more important pathogenic vegetable micro-organisms, and we have never seen this done better than in the volume of Professor Weichselbaum, and here we may call attention to the perfect reproductions of photographs of bacilli given at the end of the book. In a book for the laboratory, practical directions for the here paramount *technique* are called for. The authors have given these in the clearest and fullest manner. The necessary arrangements of apparatus are represented by useful diagrams. As is stated in the preface, Drs. Kanthack and Drysdale have not kept to themselves any of the invaluable "tips" born of practical experience. The work is the only one of the kind that has appeared in this country, and we are sure it will be appreciated by those who are concerned with the teaching of bacteriology, by students pre-

paring for examinations in public health, and by the many practitioners who wish to have a reliable guide in the absence of a teacher. The bacteriological portions of works such as this one of Weichselbaum require as a complement a laboratory guide similar to that of Drs. Kanthack and Drysdale. Those who have watched the rapid growth of this subject will have recognised that it is an answer to the constant demand for knowledge of the causes of disease. If we turn the pages of the first illustrated atlas of pathology that appeared in this country, that of Matthew Baillie, which was published about the year 1800, when John Hunter had finished his researches and made his museum, we find faithful representations of a hobnailed liver, called "a form of tubercles of the liver," of sarcomatous masses arising from the skull, called "large tubercles of the skull," and of lympho-sarcomatous nodules in the liver, called "cancerous tubercles of the liver," and so forth; the condition to which we should now restrict the term tubercles at that time being termed "scrophulous tubercles." With the work of Virchow, about 1850, came a clearing up of morphological types in pathological tissues, and so a basis was formed for the great and ever-increasing advance that is being made in our knowledge of the true nature—that is, the direct causation—of disease, which received so great a stimulus from the labours of Pasteur and Koch.

The Evolution of the Diseases of Women.—By W. BALLS-HEADLEY, M.A., M.D. (Cantab.), F.R.C.P., Lecturer on Midwifery and the Diseases of Women at the University of Melbourne. London: Smith, Elder & Co. 1894. Price 16s.

Abdominal Tumours and Abdominal Dropsy in Women.—By JAMES OLIVER, M.D., F.R.S. (Edin.), Physician to the Hospital for Women, London. London: J. & A. Churchill. 1895. Price 7s. 6d.

Ovarian Neuralgia and its Treatment.—By A. RABAGLIATI, M.A., F.R.C.S. (Edin.), Honorary Gynecologist to the Bradford Infirmary. London: Baillière, Tindall & Cox. 1895.

Obstetric Surgery.—By EGBERT H. GRANDIN, M.D., Obstetric Surgeon to the New York Maternity Hospital; and GEORGE W. JARMAN, M.D., Obstetric Surgeon to the New York Maternity Hospital. Philadelphia: The F. A. Davis Company; and London: F. S. Rebman. 1894. Price 14s.

THE first three books on this list have but little in common, because, although they all deal with gynecology, yet none of

them are complete text-books, and each only deals with certain aspects of the subject. Though interesting in a way, as representing the author's opinions and experiences, they illustrate how different are the interpretations that individual observers may put upon facts, and how far gynecology still is from having established itself on a firm and scientific basis.

The most important, as far as size and range of subject is concerned, is Dr. Balls-Headley's book, to which he has given the somewhat unsuggestive title of "The Evolution of the Diseases of Women." In this book, which is in no sense a complete text-book on the subject, chief prominence is given to what may be called the inflammatory diseases of the uterus and appendages—such, for example, as endometritis, granular os, salpingitis and pelvic peritonitis; although there are chapters dealing with uterine fibroids, cancer, and other subjects. According to the author, endometritis plays an exceedingly large and prominent part in pelvic pathology; and in the chapter on treatment, which forms the last, and perhaps the most interesting, in the book, he lends the weight of his authority to the recommendation of curetting as an almost universal panacea for the diseases of women. In cases of granular os, in addition to curetting the endometrium, he recommends excision of the diseased area around the os externum, with subsequent suturing of the denuded surface, an operation which is generally known by the name of "Schroeder's operation." The author offers a timely warning against the indiscriminate use of pessaries, believing that many of these cases of so-called displacement are more benefited by the curette than by any form of mechanical support. His remarks on falls and injuries as a cause of uterine displacements are valuable and suggestive. He says: "Virginal retroflexion from a fall, as from a horse, does not exist, but the symptoms of previously existing disease . . . may thereby have been accentuated. Attention is drawn to the part, an examination made, and retroversion or retroflexion found but associated with its causes and evolutions. It is probable that a woman could be bumped down on her back or ischial tuberosities till her vertebral spines were broken before so small and well-supported an organ as the healthy virginal uterus, tubes or ovaries were displaced; nor probably then. Therefore to replace an inflamed uterus and introduce a pessary under such assumption, ignoring the presence of coincident inflammatory disease, is injudicious, and will be found injurious."

The introduction of antiseptics has raised the curette into the position of the weapon *par excellence* of the modern gynecologist; but whether further experience will uphold the

widespread scraping which is at present in vogue is a matter which only time will determine. If we might venture to criticise such a work as this, which is evidently the outcome of much time and labour, we would point out that some of the phraseology is quite remarkably the reverse of lucid.

Dr. Oliver gives a short but fairly adequate account of the chief physical signs of tumours and swellings met with in the abdomen, the text being fully illustrated by a large number of cases culled from the author's note-book. He commences with a short description of the signs of uterine pregnancy, and relates several cases presenting symptoms or signs of an anomalous character. He does not, however, confine himself to tumours connected with the female generative organs, but deals also with tumours of other abdominal organs, such as those of the liver, stomach and spleen. In the final chapters he discusses the etiology and pathology of abdominal dropsy in some detail. More than one-half of the book consists of illustrative cases from the author's own practice. Their number renders the book less pleasant and easy reading than it might otherwise prove.

Dr. Rabagliati's book represents, in an expanded form, a paper read at the last meeting of the British Medical Association, and possesses a double title; for, though called on the cover of the book "*Ovarian Neuralgia and its Treatment*," on the title-page it is designated "*On Some Symptoms which Simulate Disease of the Pelvic Organs in Women*." This latter title appears to us to more nearly represent the scope of the work than the former one.

In brief, the author's argument is that in many cases where feeble, ill-nourished women complain of pain in the iliac fossa and sacral region there is no evidence of pelvic disease, and no reason to refer such pain to the ovaries. These cases, he says, are often regarded as neurotic, but he would refer the pains to the muscles or muscle sheaths, though the nerve sheaths or joints may also be involved. He regards the affection as an essentially rheumatic one, and suggests that the term "*perimysitis rheumatica*" would be a correct name for the most important element in the disease. Finally, he insists that this condition results from general malnutrition, and requires for its treatment altered diet and methodical exercises, accompanied by a kind of self-massage—a form of treatment that he designates "*auto-piosto-myokinetics*," which being translated means the self-movement of muscles under pressure. The author renders valuable service in insisting on the importance of carefully graduated exercises in women such as he describes, and he rightly shows that rest in such cases can be of no permanent value unless

associated with exercise. The improvement in the general health, and the improvement in the nutrition of the muscles consequent on exercise, is easily capable of demonstration. We cannot help thinking that the author's conclusions are less at variance with those of the greater number of gynecologists than he supposes. Pains and local tenderness such as he describes are widely recognised as symptoms of impaired general health and of muscular origin, and though others may not regard them as dependent on a chronic rheumatic inflammation of muscle sheaths, the arguments which he brings forward in support of this idea are far from conclusive. The treatment he advocates differs chiefly in detail from that adopted by many others. Instead of gradually increasing walking and riding exercise he advises a form of gymnastics which, though no doubt of great utility, present the serious drawback of being dull, and therefore, as he himself admits, it is very difficult to induce the patient to keep up the treatment for a sufficient length of time. Like all bedroom gymnastics, considerable strength of mind is required for their regular performance, and that is just what these patients have not got. The advantage of exercise taken in company, such as that obtained in playing games, is acknowledged by all to be great; but it is manifest from the costume of the young lady portrayed in the photographs at the end of the book that the exercises recommended by Dr. Rabagliati are best taken alone. It is clear, however, that in certain cases where a well-conducted gymnasium is not accessible, and where horse exercise is out of the question, some such exercises as those suggested by the author might be of great value. Inasmuch as no apparatus is required, their employment is not attended with any expense. The book is eminently suggestive, and cannot fail to prove useful to those who have to deal with the very difficult class of case described.

Drs. Grandin and Jarman have written a book called "Obstetric Surgery," which, after a preliminary discussion on antiseptic methods, commences with an account of the various forms of pelvic contraction and the measurements which are taken in such cases. The next chapter deals with the production of artificial abortion and premature labour, subjects the former of which, at any rate, hardly come within the scope of the work. Subsequent chapters are devoted to the forceps, version, symphysiotomy, Cæsarean section, and other matters. There is a chapter on the surgery of the puerperium, and finally one on ectopic gestation, which appears to us to be totally out of place, especially as most of the remarks are devoted to the treatment at the time that the

tube ruptures, and only half a page is given up to a very meagre description of the operation required in cases where an extra-uterine foetation has reached full-term. The book is illustrated by photographs and diagrams, and though the photographs are well reproduced, they represent imperfectly what could be much better described in words, or by means of a simple diagram. Some of the diagrams leave much to be desired, especially those borrowed from Schaeffer. The ease with which photographs can now be reproduced is leading to the introduction of many superfluous pictures into modern medical works. In a recent American text-book on gynecology which came under our notice there was a very admirable reproduction of a photograph of the operator washing his hands. Illustrations such as this appear to us rather in the light of a luxury than a necessity, and though pictorial representation is one of the earliest and most primitive methods of conveying information, yet to a student who has an adequate knowledge of his own language there are readier methods of making clear simple facts. The photographs in the work before us illustrating the methods of measuring the pelvis appear to belong to the class just alluded to. Although much of the work is good, there is a want of detail on many points which will be a source of disappointment to the student.

Pulse-Gauging: a Clinical Study of Radial Measurement and Pulse-Pressure. By GEORGE OLIVER, M.D. (Lond.), F.R.C.P. London: H. K. Lewis, 136, Gower-street, W.C. 1895. Price 3s. 6d.

DR. OLIVER'S work constitutes a noteworthy addition to the study of the pulse. Small as is the compass of this volume, it contains the record of numerous clinical observations of much interest, and presents many suggestive points which cannot fail to stimulate further inquiry on the lines therein indicated. It is as an able and systematic effort to secure the more careful and accurate clinical observation and record of the pulse, with especial reference to his own methods of pursuing such investigation, that Dr. Oliver's work calls for adequate recognition. The subject is dealt with in two parts, Part I. treating of *Radial Measurement*, and Part II. being devoted to *Pulse-Pressure*. In the opening chapter of the first part the principle and method of application of the author's *arteriometer* are described. By means of this instrument the amount of pressure required, under varying circumstances, to cause pulsation to cease beyond the point of its application—"the bore of the artery then being closed"—is

determined. The alterations that take place, under varying physiological and pathological conditions, are described. "In health the calibre of the systemic arteries never remains persistently uniform, but is continually varying, within pretty wide limits, in response to change of physiological condition; and the variations follow a definite order. . . . In disease, pronounced departures from the physiological order of variations are met with, as revealed by change of posture." As might be expected, Dr. Oliver has found "persistent uniformity" of the radial calibre to be especially marked in the subjects of chronic interstitial nephritis, arterio-sclerosis, chronic gout and acquired syphilis, his observations in connection with the latter being especially interesting.

The second part, devoted to Pulse-Pressure, opens with a description of the author's *pulse-pressure gauge* and its application in clinical investigation. The chief clinical value of pulse-pressure readings, we are told, consists in the detection of those which indicate an excess of the pressure which is normal to the individual. The slightest rise of intra-arterial pressure above this point, which varies somewhat in different persons, abolishes the postural variations; so that the arteriometer becomes a useful corrective supplement to the pulse-pressure gauge. The value which, in Dr. Oliver's opinion, is to be attached to this method of investigation is shown by the following quotation:—"The pulse-pressure gauge is useful in definitely determining the excessive degrees of pulse-pressure which are mischievous to the heart and arteries, and in revealing with much more precision than can be acquired by the finger the less pronounced grades of it which may perhaps escape digital detection, and which may be advantageously met by timely treatment." The observations and remarks relating to the "diagnostic hints" afforded by the pulse in connection with such affections as gout, syphilis, chronic renal disease, arterio-fibrosis, angina pectoris, etc., are calculated to attract increasing attention to a subject of the utmost practical importance. As to the value of such "hints" there can be no question, though there is room for difference of opinion as to the relative merits of the various clinical methods by which they may be ascertained. It is to be hoped that Dr. Oliver may at some future time publish in a more exhaustive form the results of his methods of investigation when the range of his survey has been still further extended; for although in clinical medicine no instrumental methods are capable of replacing, or even of restricting the sphere of skilled tactile investigation of the pulse, as supplemental means such methods are manifestly of great clinical utility.

Abstracts from Foreign Journals

MEDICINE.

Influence of the sensitiveness of the stomach on the phenomena of digestion (*De l'Influence de la Sensibilité de l'Estomac sur les Phénomènes de la Digestion*).—P. SOLLIER (*Revue de Médecine*, Jan., 1895).—The object of this paper is to show that the stomach is more sensitive than is usually supposed, and that its sensitiveness has a large influence on normal digestion. The stomach has motor and secretory functions, and it is with modifications of the latter that this paper deals. This secretory function depends on two factors—the condition of the glandular element and the nervous system—and it is therefore evident that variations in the latter may affect the amount of secretion. It has been said that the sensitiveness of the stomach is slight, that normally the contact of food is not felt, and that in health we have no knowledge of digestion taking place. But slight variations are quickly felt, whether a substance is hot or cold, irritant or acid; so that the sensitiveness of the stomach is probably much greater than has been supposed. The one subjective sensation peculiar to the stomach is that of hunger, and this is produced when the stomach becomes empty. This sensation the author considers a very delicate one, and states that in all derangements, whether functional or organic, the want of food is the first gastric sensation to become modified, and that in cases where the common sensibility of the organ is destroyed the sense of hunger is the first to go and the last to return. Summing up, the author thinks that the sensitiveness of the stomach is shown in three ways—(1) by sensation of hunger, (2) by contact of food, and (3) by knowledge of satiety. To support these theories, clinical, experimental, and chemical methods are resorted to. The clinical examples chiefly deal with the anorexia of hysteria. In these cases the author has often found an area of cutaneous anaesthesia over the region of the stomach, which he thinks varies in intensity with the degree of altered sensation in the stomach itself; and, further, it is said to be present only so long as the feeling of hunger is absent, and to disappear when desire for food returns. It cannot be satisfactorily made out in the graver forms of hysteria, where cutaneous anaesthesia is widely

present. Another result of loss of gastric sensation is often atony, which further complicates matters by fermentation being set up by retained fluid. The experiments on this subject were done by hypnotising patients and then suggesting to them the loss of gastric sensibility, and carefully following up the various effects. The chief conclusions drawn were:—(1) That purely nervous dyspepsias, as well as organic dyspepsias, are attended by modifications of chemical changes in the stomach; (2) that these chemical modifications depend on alterations in the secretion and movement of the stomach, both alterations being due to changes in gastric sensitiveness in the first place. The experiments to show how chemical variations take place under the influence of modified sensitiveness were conducted by producing anæsthesia of the stomach by hypnotism, and then testing the constituents of the gastric juice after various intervals. On comparing the conditions during health and after insensitiveness has been established, a close dependence of the condition of the gastric juice on the stomach sensitiveness is demonstrated. It will thus be seen that the chemical variations of the gastric juice cannot depend only on structural alterations of the stomach, for if so we should have to suppose such alterations to be continually taking place. From the therapeutical side of the question it is therefore a great mistake to fix on chemical changes as the basis for treatment, when in so many cases they are secondary to alterations in gastric sensitiveness. The exact manner in which these alterations of sensation are brought about is still a matter of doubt, but the author inclines to the view that variations in the vaso-motor system are probably the most important factors.

The disinfection of the intestinal tract (*Sulla Disinfezione del Canale Intestinale*).—SCALFATI (*La Riforma Medica*, Feb. 2, 1895).—The author gives a review of the various remedies which have been employed, together with the experiences of the respective writers on the subject. They agree in stating that the disinfectant should not be too readily soluble, in order that it may reach the intestinal canal; that it should be administered in a fine powder, in order to increase the extent of contact with the intestinal walls; and that, in order to avoid poisonous effects, small doses should be given. It is furthermore stated that we possess substances, such as salicylate of bismuth, carbon, naphthalin, and menthol, which succeed in attenuating the virulence of micro-organisms contained in the fæces, whereby death of the host would be delayed; but that as yet we possess no reliable substance capable of destroying the germs. Tannic and

salicylic acids, permanganate of potash, and quinine salts exercise a slight antiseptic action, and when used as washes their effect is in part mechanical, due to the action of sterilised water. The other antiseptics, when internally administered, would produce better effects owing to their insolubility. However, as recommended by Bouchard, small and frequent doses should be given, salol and benzo-naphthol appearing to be favourites. Very beneficial results have been obtained by thymol and cresol, during the use of which the number of intestinal germs was undoubtedly seen to diminish.

Salol test for gastric atony.—DR. BENEDICT (*Medical News*, Feb. 9, 1895, Philadelphia).—This salt, insoluble in an acid medium, is decomposed by an alkali into carbolic and salicylic acids; and the latter appears in the urine, is identified by the iron test, and is found from forty-five to sixty minutes after administration. It is usually given in a 7-grain dose at the end of a meal. Its presence indicates the first leakage of food through the pylorus, absorption and elimination, less about ten minutes for delay in the various channels. For nineteen observations the average was fifty-five minutes, the minimum thirty, the maximum ninety. These extremes were met with in three old patients with sub-acid dyspepsia, and a fourth with chronic bronchitis—a feeble old woman. As a control experiment in a healthy man, 15 c.gr. were given an hour and a half after a meal; and a trace was found at the end of twenty and marked at forty minutes. Ewald considers the decomposition due to the pancreatic secretion, which was disproved by Gley, who showed that it took place when it was extirpated. And Stein further showed that mucus accelerates it, and that it may occur from the stomach, as was noted in a case of gastric catarrh at the end of thirty minutes. In fact, the observations made seemed to indicate that in sub-acid dyspepsia salol is decomposed much more readily in the stomach than under normal conditions, unless it is assumed that with secretory failure there is an excess of muscular activity of the stomach. Huber considered it a sign of gastric atony if more than twenty-four hours were required for the complete elimination of 50 c.gr. In two of the cases with good motility, in which the reaction was found at the end of thirty minutes, thirty-six and forty-eight hours were required for complete elimination; and in a third only three hours. Generally the series seemed to show that although a chlorydria might allow the rapid absorption of salol from the stomach, there were discrepancies sufficient to vitiate any possible value the test might have, delay in the appearance of the test often appearing where least expected.

Intestinal indigestion.—DR. A. P. BUCHMAN (*The Journal of the American Medical Association*, Feb. 2, 1895).—Primarily, intestinal putrefaction is due to errors of gastric and pancreatic digestive proteolytic processes, and results in the production of indol and other aromatic bodies. In early life these are manifested by changes in the odour and colour of the stools; in adult life by the symptoms of "biliousness." The chief cause lies in an inability of the intestinal tube below the pylorus to cope with the amount of carbohydrates and hydrocarbons daily poured into it, resulting in a derangement of the ganglionic nervous system, which tells upon the organism as a whole, besides provoking an intestinal secretion abnormal both in kind and quantity. Acetic and other acids the result of fermentation play an important part in this process. The contents of the small intestine are too strongly acid to be sufficiently neutralised by the sodium carbonate; and the maltose formed as a product of pancreatic action, instead of being reduced to a simpler form by the maltose-converting enzyme of the intestinal wall, is converted into ethylic alcohol and, lastly, acetic acid. The unconverted starch granules, with their covering of cellulose intact, absorb water. Disintegration takes place with the rupture of the envelope, and carbonic acid and other irritative bodies are set free. Hence result changes in the muscular and ganglionic elements with imperfect absorption and secretion, which vitiate the whole blood-stream. Following this catarrhal process comes a general thickening throughout of the muscularis mucosæ. The orifice of the appendix is permanently relaxed, resulting in frequent appendicitis. The changes in the colour are manifested by alternate diarrhoea and constipation, and tympanitis and gaseous fermentation occur. Heredity and environment largely control the manner in which these processes manifest themselves. A fitting soil for phthisis pulmonalis is thus very readily prepared. Neurasthenia very probably depends upon these digestive disorders, which manifest themselves through the nervous system, and frequently yields to their intelligent treatment. In the same category come the sclerosis of the brain and spinal cord, and especially tabes. The third stage of intestinal indigestion expresses itself in such forms of pathological action as result in speedy dissolution, acute phthisis, acute Bright's disease, tabes mesenterica, and the loss of resisting power to attacks of acute affections. All treatment of intestinal indigestion must include a careful consideration of the stomach and colour, otherwise little benefit will result. Colonic baths, properly medicated, are immensely useful in the general treatment and care of patients suffering from intestinal indigestion.

Sulphuretted hydrogen in dilated stomach.—DR. JOSEPH ZAWADSKI, of Warsaw (*Centralbl. f. innere Med.*, Dec. 15, 1894).—The author begins with a review of the views held as to the antiseptic properties of the gastric juice, and the relationship of these properties to the presence and percentage of hydrochloric acid, from the days of Spalangani, Prout, and Schmidt, down to the present time. He points out that in health gastric juice with a normal proportion of HCl possesses anti-zymotic and anti-fermentative processes, and opposes the action of diseased influences. While, however, in the healthy stomach fermentation and putrefaction either occur slightly or not at all, in dilatation of the stomach various forms of bacteria exist and multiply. In such cases the anti-zymotic power of the gastric juice fails; and as long retention of food, even with a normal amount of HCl, favours putrefaction, so diminution of HCl secretion increases that tendency. The author refers to Spalangani's experiments, which showed that putrid flesh given to animals speedily lost its putridity, which action Spalangani attributed to the gastric juice; but he does not think this excludes the possibility of albuminous decomposition in man. He quotes the experience of Boas, and confirms his views by four clinical cases in his own practice. These cases, he says, go to prove that in gastrectasis even a relatively large amount of HCl does not prevent a marked evolution of H^2S or the splitting up of albuminoids. Notwithstanding the presence of large quantities of H^2S (consequently of other putrefactive products) in the stomach, the urine remained free from H^2S . No kind of poisonous symptoms appeared. The absence of toxic symptoms may very simply be explained by languid absorption. In the author's four cases absorption of potassium iodide administered fasting occurred in from fifteen to eighteen minutes; in the full stomach in from twenty-two to twenty-five minutes. But this does not afford a complete explanation. In one patient the amount of H^2S was so excessive that the patient had to sleep apart on account of the sickening stench. We must assume that all the H^2S is not expelled by eructation, but that a portion escapes into the duodenum. How the poisonous products are destroyed is not easily explained. The question for the future deserves all the more attention as Bouveret's and Devic's researches show that an alcoholic extract obtained from the stomach contents in hyperacidity and gastrectasis produced convulsions and death in rabbits, and Kulniew found ethyl-diamin in the dilated stomach. The writer does not discuss the causes of albuminous putrefaction. Müller's bacillus has been discovered in the mouth rapidly decomposing albuminoids, and this plays a rôle which can

only be determined by further bacteriological researches. In the cases quoted these have not been completed. It should once more be noted, as Boas has already observed, that the decomposition may take place even in a strongly acid fluid in which the acidity is conditional on a mineral acid. The author states again that his patients had taken no alkaline sulphates; two of Boas's cases, on the contrary, were open to this fallacy. The result is stated thus: In pronounced gastrectasis the stagnant albuminoids undergo putrefactive changes in spite of a high degree of acidity of the contents. This happens, however, only after prolonged retention of food in the stomach; even after twenty-four hours' retention no H^2S production may occur in such a patient. This fact is in accordance with Sieber's experiments in vitro. Even large quantities of putrefactive products cause little or no injury to the general condition, the cause of this self-preserving power being unknown.

On the formation of sulphuretted hydrogen in stomach diseases.—DR. J. BOAS, of Berlin (*Centralbl. f. innere Med.*, Jan. 19, 1895).—The author, *à propos* of the preceding, refers to a former publication of his own, and gives the result of his observations since its publication in 1892. He states in the outset that the presence of H^2S in the stomach contents is the commonest occurrence in non-malignant dilatation of the stomach, but that, on the other hand, it practically never occurs in cancerous disease. He asserts that the production of H^2S is absolutely independent of the presence of hydrochloric acid, while, on the contrary, it is manifestly affected by the character of the food. It occurred even in patients who were long under treatment and had their stomachs regularly washed out. He never found it except in mechanical insufficiency and retention of the stomach contents. In simple atony it was not found; and the same holds good for neuroses, ulcer, gastritis, and alteration of position uncomplicated with dilatation. It was observed transiently in one case of acute dilatation due to dietetic errors. The antagonism between H^2S production and lactic acid fermentation is very remarkable. H^2S was never observed with lactic acid fermentation, and lactic acid was never found concurrently with H^2S . The absence of H^2S in gastric cancer is very noteworthy where the conditions seem very favourable for albuminous putrefaction. There is a wide difference between the stomach contents in retention due to simple and malignant disease. In the former gaseous fermentation preponderates with the formation of hydrogen, marsh gas, carbonic acid, nitrogen, and sulphuretted hydrogen; in the

latter gaseous fermentation is almost always absent, especially in the later stages; instead of it, lactic acid fermentation occurs, which is absent in the former. Sarcinæ are almost always present in benign retention; hardly ever—at all events with lactic acid—in malignant disease. Finally, the presence of filamentous bacilli may be expected in the latter class of cases, but not in the former. It is to be observed that a benign process may occasionally assume a malignant character, and that, on the contrary, a malignant case may at first appear non-malignant; and thus exceptions to the rule may appear to arise. But the fact remains that gastric cancer presupposes always, if it leads to retention, a totally different process of decomposition from that which occurs in simple dilatation. Thus certain diagnostic signs result of which lactic acid production in cancer is the most important; but the above-mentioned symptoms are also valuable as serving to complete the diagnosis.

The bacteriology of stomach fermentation (*Beitrag zur Bacteriologie der Magengährungen*).—DR. J. KAUFMANN (*Berlin. klin. Wochenschr.*, Feb. 11th and 18th, 1895).—The doctrine just promulgated by Bunge, ascribing an antiseptic action to the acids of the stomach, has been so generally received that their other functions are almost cast into the shade. According to that observer, the hydrochloric acid possessed the power of destroying the micro-organisms which were introduced into the stomach by the food, and which, by setting up decomposition in the alimentary canal, destroyed part of the aliment before it could be absorbed. These products when absorbed might cause troublesome symptoms, or even threaten life by setting up disease. If these statements are correct the acid of the gastric juice must be a very efficient bacterial poison. The behaviour of different bacteria to hydrochloric acid was found to be very variable; some are very sensitive, a weak solution of acid sufficing to kill; others are much more resistant. Even when their growth is arrested by a concentration of 1—2 per cent. they retain vitality. Many series of experiments have been made upon this point, and the results of the behaviour of the most important bacilli show the bacillus of Asiatic cholera to be most sensitive, that of typhoid more resistant, while tubercle and anthrax retain activity even longer. The last two form spores which do not yield to hydrochloric acid. Among the germs which produce gastric fermentation, those bacteria which decompose carbohydrates are more resistant than those which cause albuminous fermentation. Some fission fungi which produce lactic acid fermentation are acted upon with difficulty. After giving an

account of the literature of the subject and of the methods of estimating the degree of fermentation, Kaufmann states that for normal circumstances Bunge's doctrine of the action of hydrochloric acid suffices; but when we come to the prevention of disease fermentation other factors must come into play, because we find not infrequently that fermentation may not take, although hydrochloric acid is absent; and, on the other hand, it may set in to a considerable degree where the acid is present in normal or even increased quantity. Of much importance in this respect is the motor activity of the stomach; and it has been shown in many cases where acid is wanting in the stomach that a compensatory factor exists in the greater activity of the stomach muscular power, which speedily passes on the food to the intestines. On the other hand, it has been proved that where there is stagnation fermentation may take place even if free hydrochloric acid is present in large quantity. In all the recorded cases of pathological fermentation in markedly acid stomachs there has been dilatation with stagnation. Kaufmann cites a case, however, which shows that it does not require gastric dilatation with stagnation to permit fermentation in spite of the presence of abundant hydrochloric acid, but that rather a much smaller degree of disturbance of the motor activity is sufficient. The patient had suffered from atony of the stomach with increased secretion of acid, which was abundantly present even in the fasting state. In the stomach, the motor activity of which was only moderately impaired, and notwithstanding a large proportion of free acid, there was a considerable increase of bacteria at all times. The microscopic examination always showed a bacterial fermentation, and this was confirmed by bacteriological culture. Besides the yeasts and sarcinæ and various bacilli which are inhabitants of water and readily succeed in getting into the stomach, there was a microbe resembling the bacillus coli commune which was certainly not usually met with. It differed from that bacillus in readily growing and thriving in the normal gastric juice with free hydrochloric acid. It was present at most of the examinations, even when the degree of acidity was high, and it flourished on acid agar. The chief interest of the case, however, was the existence of bacterial fermentation at the climax of digestion, even when there was a high percentage of hydrochloric acid.

Massage and its effects on the glandular functions
(*Contributo allo Studio dell' Azione Fisiologica del Massaggio*).
—CARLO COLOMBO (*Lo Sperimentale*, Feb. 1st, 1895).—The author, as part of his researches into the physiological results

of massage, gives the outcome of his investigations as to the effects produced on the glands of the body. Animals were chosen for all the experiments, those on the sweat-glands excepted. As regards the stomach, the secretion increased from the normal of 15 cubic centimetres to 40, periods of two hours being chosen for each observation. The result was most obvious after massage had been practised about fifteen minutes. Among the salivary glands the submaxillary is the most sensitive, five minutes of friction sufficing to rouse it to greater activity, and the liquid that results has the same characters as that flowing after stimulation of the chorda tympani. As regards the kidneys, the first series of experiments showed that the excretion became most intense after ten minutes; the second investigation was intended to determine the quality of the fluid flowing respectively from each ureter, massage taking place over one lumbar region only, and as a result of the friction there was diminution of specific gravity, increase of epithelial elements, and during the first five minutes slight albuminuria. The secretion from the testicles was examined at its passage through each inguinal canal. Not only was the quantity increased twofold, but the fluid also contained abundantly the products of the testicle. Friction over one lachrymal gland led to increased activity of both. Thirty minutes of energetic massage sensibly increased the weight and amount of perspiration subsequently produced, but, the potash salts and urea being deficient, the density was lessened. Finally, as regards the liver, twenty-five minutes of surface friction produced the same effect as deep manipulation during ten minutes, the best result being obtained by the combined operations during ten minutes. As a general conclusion, the author states that massage leads to an increased glandular flow, from which it must follow that the epithelial cells are roused to greater activity, and that the inflow of blood, hence also the filtration of serum, are assisted.

SURGERY.

The surgical treatment of diseases of the stomach
(*Ueber die chirurgische Behandlung der Magenkrankheiten*).

—DR. ROSENHEIM (*Berlin. klin. Wochenschr.*, Feb. 25th, 1895).

—In a paper read before the Society for Internal Medicine, Rosenheim gives us an admirable *résumé* of the results obtained from surgical procedures in gastric affections. In the enormous advance in abdominal surgery of late years the stomach has hitherto taken a comparatively small share, and, as Rosenheim points out, this has been limited to the last three years; so that the data necessary for an opinion on

many of the points which are likely to call for a decision are still incomplete. Surgical measures have been attempted in many unsuitable cases in which improvement might be attained by less dangerous procedures. Hitherto a cancer of the stomach was considered beyond the pale of operation, but now a most important consideration is whether it can be removed or influenced by surgical means. Of the patients operated on, no absolute cure is on record; but judgment ought to be suspended until sufficient experience is obtained. Favourable results have been got, life has been prolonged, and much suffering spared. The surgical treatment of gastric cancer resolves itself into that of the pylorus and neighbouring parts—resection with removal of the diseased material, or gastro-enterostomy, the establishment of a fistulous communication between the stomach and intestine. The mortality, according to Guinard, in 153 resections was 62 per cent.; and according to Lebœuf, in 108 patients, 58 per cent. For gastro-enterostomy Guinard gives a mortality of 31 per cent. in 105 cases; Rockwitz quotes a much lower figure—12·5 per cent.; while Eugen Hahn is still more favourable. In all these the special technical training of the operator is a factor, and other conditions which necessitate the operation exercise a considerable influence. From the statistics resection is the more perilous procedure, especially where it lasts several hours. The cases should be carefully chosen. The patient must be capable of standing it, and the conditions in the stomach suitable. As contraindications may be mentioned extension of the growth over half the stomach, extensive adhesions with the liver and pancreas, implication of the mesentery, and especially metastases, and infiltration of the lymph glands. Much depends upon an early diagnosis, and for this we have no certain sign. A combination of all the signs gives the most satisfactory guide, but in many cases it is not possible to foretell the condition without an exploratory incision. Where it is not possible to operate, much may be done by washing out the stomach regularly and treating the symptoms, or by a palliative operation. Many patients of Rosenheim so treated increased in weight and lived longer. The removal of local irritation slows materially the rate of growth, and the patient's nutrition improves. The motor function may be quite maintained after resection of the pylorus; in gastro-enterostomy it remains incomplete, though the patient may be free from all discomfort. These palliative operations will probably be more frequently carried out, as in trained hands they are almost without danger. In benign tumours of the pylorus, where the muscular power is unimpaired, the result will be better. Various procedures may be

here adopted to remove the obstruction—resection, gastro-enterostomy and pyloroplasty, and Loreta's operation. Four of Rosenheim's patients in whom Hahn performed gastro-enterostomy are quite well. Pyloroplasty appears applicable only to cases of stricture from cauterisation. Cases with unhealed ulcer are not suitable for this operation, as complications, bleeding, etc., may ensue. In extensive adhesions on the posterior wall this procedure cannot be carried out, and in narrowing of the pylorus resection should not be entertained. The idiopathic dilatations of the stomach should be considered. As a measure of the extent of the motor disturbance, the malnutrition should be observed, and, further, the dimensions of the stomach ascertained. If no result comes from washing out for several weeks, then operation is desirable. It is wrong to wait until the patient is worn and reduced. Gastro-enterostomy is indicated if the malnutrition advances. In the operative treatment of ulcer three events should be borne in mind—bleeding, perforative peritonitis, and perigastritis. In the event of bleeding the operative indications are not good; where it threatens life it must be attacked. Of fifteen cases of perforative peritonitis operated on, only one recovered. Perigastritis, after perforation, may be treated by operation. In moderately advanced cancer of the cardiac end of the stomach operation has not had great result; only when fluids are blocked should it be undertaken. Where the stricture is simple, gastrostomy is useful, as it may be dilated from the intensity of the stomach.

Diseases and disorders of the stomach—modern surgical treatment.—DR. KAMMERER (*Medical Record*, Feb. 2, 1895, New York).—Before the days of antiseptics, incision of the stomach for the removal of foreign bodies unable to enter the duodenum was very successful. Küster twenty years ago reported a gastrotomy in gastric ulcer for repeated hæmorrhage where a thorough cauterisation effected a complete cure. Mikulicz excised an ulcer, uniting the walls with sutures. Both were successful, and have been repeated, but not always with like success. Loreta practised gastrotomy close to the pylorus as a preliminary step to divulsion in simple pyloric stenosis. Preferably a pyloroplasty is now practised as not having the dangers of the former operation, with a percentage of recoveries in the Heinicke-Mikulicz method of 82·7 per cent. With the presence of ulceration gastro-enterostomy is indicated. For simple dilatation of the stomach without organic lesion of the pylorus longitudinal and transverse tucks in the stomach have been sewn by

sutures through the muscular and serous coats of the stomach. In perforating gastric ulcer, only one successful case of operation has been recorded. In malignant disease of the pylorus, pylorotomy or gastro-enterostomy may be done; the former by Billroth's method, or by Bull's, of first closing the stomach and then implanting the duodenum in the posterior wall of the organ. Where the neoplasm cannot be removed, no operation should be done when the symptoms are slight. If far advanced, or it is found that there is extensive secondary disease, it is better not to do it; but if the stenosis is well marked, there is practically no alternative but gastro-enterostomy, although the prognosis is made worse. Hahn claims that washing out the stomach twelve hours after the operation improves the chances of the patient by diminishing the vomiting, and is without danger. In the operation, the plan of bringing the jejunum through a slit in the transverse mesocolon and attaching it to the posterior wall of the stomach is an advantage. In gastro-enterostomy uniform approximation is indispensable, and, in the author's opinion, is best attained by silk sutures. Murphy's button has the disadvantage that it may slip into the stomach as easily as into the small intestine. In the treatment of cancer of the stomach, progress lies in the direction of pylorotomy; and the difficulties are all in the way of an early diagnosis, which can often only be overcome by laparotomy. Early pylorotomy is indicated by the fact that in about one-third of the cases, examined post mortem, no adhesions nor metastatic deposits have been found.

The treatment of piles (*Comment doit-on traiter les hémorroïdes?*).—A. RICARD (*Gazette des Hôpitaux*, Feb. 7, 14, and 21, 1895).—The author first eliminates classes of cases as unsuitable for operation. These are: (1) such as are secondary to stricture (cancerous or otherwise) of the rectum, hypertrophy of the prostate, disease of the bladder or urethra, pelvic tumour, or cirrhosis of the liver; (2) cases in which the piles cause but little inconvenience; (3) strangulated or gangrenous piles. In the first class it is obvious that the primary cause should be ascertained and, if possible, treated. In the second the diet, exercise, etc., should be regulated so that the condition does not grow worse. During attacks of congestion, enemata with laudanum or antipyrin are recommended. Inflamed piles are in a state of septic thrombosis, and so are unsuited for any save palliative measures, such as warm injections (100°—110° F.) and fomentations; and tampons impregnated with glycerine, 35 parts; iodine, $\frac{1}{8}$ —1 part; and iodide of potassium, 2—5 parts, are recommended. The latter

application causes slight pain, and a small proportion of iodine should be used to begin with. For moderately severe piles the author has found forcible dilatation of the anus not only relieve but cure the affection. The operation may be done in local or general anæsthesia. For the former a *one per cent.* solution of cocaine is used; the needle and syringe are previously sterilised; and in making the injection care is taken to avoid sending the liquid into a vein by passing the needle deeply into the sphincter and gradually withdrawing the point as the injection is being made. This is repeated at various points, and a tampon steeped in the same solution is passed into the rectum beyond the sphincter. Five minutes are allowed for the drug to attain its full effect. If chloroform is used, it must be borne in mind that the danger lies in giving too little of the drug in too short a time. Complete anæsthesia should be obtained so that there is no danger of syncope from reflex at the time of stretching. Ample enemas to clear out the bowel are not to be forgotten. The operation may be done either by the fingers or by an expanding speculum. The latter is preferable, because its effect is gradual and regular. If the fingers were used, the indices should be introduced back to back and pressed towards the ischial tuberosities. As soon as sufficient room was obtained, the middle fingers should be introduced, and the stretching continued until the tuberosities were felt on both sides. Retention of urine for forty-eight hours sometimes followed the operation, and should be relieved by the catheter. A dressing of iodoform gauze should be applied by a T-bandage after the anus had been washed with boric-acid lotion. The patient should be kept constipated for three days. Incontinence of fæces and prolapse of mucous membrane were best avoided by performing the dilatation gradually and evenly. If any nodular projections remained, they could be removed by plunging into them a dull red cautery-point, a procedure which should be practised at the same time that the sphincter is dilated whenever the piles were prominent. Larger piles were best clamped in the axis of the bowel after dilatation and seared off, care being taken not to remove enough mucous membrane to cause a subsequent stricture. When the piles are numerous, the author advocates what in this country is known as Whitehead's operation: dissecting up the piligerous zone of mucous membrane, and, after cutting it off, suturing the healthy membrane to the skin. After six days' constipation, a dose of castor oil is given, and is followed by a glycerine enema. In every case where cauterisation or cutting operations are employed, applications of iodoform ointment are recommended.

Castration in hypertrophy of the prostate gland (*University Medical Magazine*, Feb., 1895).—A leading article on this subject remarks that when Dr. J. William White first suggested to the profession the operation of castration for the relief of hypertrophy of the prostate gland (Address at the Annual Meeting of the American Surgical Association, June 1, 1893, *Annals of Surgery*, Aug., 1893) on theoretical grounds, although strongly supported by experimental evidence, it is doubtful whether anyone appreciated the full value of the recommendation. Cases of prostatic hypertrophy are of extreme frequency. Sir Henry Thompson found that one man of every three over fifty-four years of age examined after death showed some enlargement of the prostate, one in every seven had some degree of obstruction present, while one in fifteen had sufficient enlargement to demand some form of treatment. The lives of such patients are threatened because, if the obstruction is not removed, the health is rapidly undermined. Heretofore the surgeon has been unable to afford distinct relief from the distressing symptoms of an advanced case of this affection. If the patient's general condition would warrant the very considerable risk, some form of prostatectomy was performed. The suprapubic method was recommended for a time, but the difficulties encountered in its performance, the frequency of suprapubic fistula as a sequel, and the high mortality following the operation have led to its almost total abandonment. Perineal prostatectomy is also attended with considerable risk, on account of the free hæmorrhage and the prolonged anaesthesia which is necessary. In addition to this, the operation is a bungling one, in which the enlarged gland is removed by cutting, scraping, or gouging, while the instrument is out of sight, and much of the time it cannot be guided even by the finger. Combined suprapubic and perineal prostatectomy enables the operator to enucleate the gland with greater freedom, but it is an operation of such gravity that it would be contraindicated in the very cases in which the demand for relief was most urgent. Perineal prostatotomy is little more than a palliative measure. All of these operations confine the patient to bed for several weeks, which is in itself objectionable, and in addition require the use of the bougie for a long time afterwards.

In view of these facts it is not strange that surgeons should have presented Dr. White's suggestion to patients suffering from the consequences of prostatic hypertrophy, nor is it unnatural that such patients accepted this chance for relief from a condition that in many cases was rapidly and surely impairing the health of a person otherwise vigorous and,

apparently, without this trouble destined to enjoy many additional years of life. With the testes already or soon to become functionless, and with the contemplation of a long period of intense suffering which will be relieved only by death, sentimental objections pale into insignificance, and the problem of securing relief without placing the life in danger is the only one entitled to consideration.

Cases of castration based upon Professor White's deductions soon began to be reported. Thus far eighteen operations have been published. All have been more or less successful, and usually the relief has been marvellous. The least favourable cases have experienced infinitely greater relief than has been obtained by any method heretofore employed. At least as many unpublished cases have been operated upon with equally favourable results. There have been no deaths from the operation. The operation has, therefore, passed the experimental stage, and has legitimately established for itself a position among the most successful of operative procedures.

It is necessary, however, to utter a word of caution here. Castration is not indicated in every case of prostatic enlargement or urinary obstruction. To secure uniformly successful results one must be certain that the condition from which the patient is suffering is appropriate for the operation. Cases of prostatic abscess, prostatitis, tumours of the prostate and of the region of the neck of the bladder, and other forms of obstruction in the neighbourhood of the prostate, must be distinguished from true prostatic hypertrophy. As it stands to-day, however, in appropriate cases, it appears to mark an advance in the surgery of the prostate, which, when the gravity and the frequency of the condition of hypertrophy are recalled, together with the more or less ineffectual and always dangerous methods of treatment which have prevailed, must be a source of congratulation not only to Professor White but to the profession at large, and to thousands of patients who, having outlived their sexual lives and earned an old age of mental and physical repose and intellectual enjoyment, have had only a few short years of torment and misery to look forward to on account of this hitherto intractable disease.

The treatment of inoperable malignant tumours with the toxins of erysipelas and bacillus prodigiosus.—WILLIAM COLEY, M.D. (*Medical Record*, Jan. 19th, 1895).—The results of thirty-five cases were reported at Washington on May 31st, 1894, and since then the author has had the additional experience of twenty-four more cases. Up to last May the cases were treated with the filtered toxins prepared by growing

the erysipelas streptococci in bouillon for three weeks, filtering through porcelain, and preserving by adding thymol. The toxins of bacillus prodigiosus were then prepared in the same way, and the two mixed together at the time of using. This method failing to utilise any virtue which might exist in the germs themselves, it was decided to prepare the toxins by subjecting the cultures to the lowest temperature that would suffice to destroy the germs. It was found to be 58° C.; and this mode has been used in the twenty-four cases now reported, and has been found more efficacious than the filtered toxins. The satisfactory results have been obtained in sarcomata chiefly, the effect on carcinomata being evanescent and doubtful. The first case recorded is that of a recurrent sarcoma of the hand, which had been operated on six times, the recurrence each time being at a shorter interval. These operations had extended over a period of about four years, the last being in January, 1893, after which recurrence took place within three weeks. The nature of the growth had been frequently demonstrated by microscopical examination. When the toxin treatment was commenced the tumour was half the size of a hen's egg, and the axillary glands were enlarged. Although the patient was in failing health, treatment was commenced and gradually pushed to its full extent. The tumour then became smaller, and it was thought advisable to scrape out some necrotic tissue which was present. Firm healing by granulation followed, and no recurrence has so far occurred. The patient has gained weight and improved in general health. This case is important, as it shows that a rapidly growing sarcoma can be held in check by toxins even when given under unfavourable conditions; it further shows that the malignancy has in this case probably been destroyed, as perfect health still continued six months after the disappearance of the tumour. The second case was a tumour over the right buttock—supposed to be an osteosarcoma—and was accompanied by large inguinal glands. The result of injections in this case was that it underwent necrosis and gradually sloughed away, leaving the patient well. The third case, a tumour of four months' duration, and shown microscopically to be a spindle-celled sarcoma, arose from the left scapula, and had already extensively involved the left thoracic wall. Treatment was commenced at the end of June, and by October the tumour had almost entirely disappeared; in this case it appeared to be entirely absorbed, as no necrosis of the tissues occurred. The fourth case was a small sarcoma of the sternum, which also ended satisfactorily. In carcinomata the author is not very sanguine over the efficacy of this treatment. One case of epithelioma of

the lower jaw, involving the floor of the mouth and the tongue, was treated and resulted in a striking improvement, which unfortunately was only temporary, the disease in the end becoming as bad as before. After giving an account of some experiences of other practitioners, which on the whole appear to have been very promising, the author concludes with a caution against giving this powerful form of treatment indiscriminately. As individuals vary so much in their susceptibilities, a minimum dose should be given to begin with.

A sarcoma of abdominal cavity cured by toxins of erysipelas.—HERMAN. MYNTER, M.D. (*Medical Record*, Feb. 9th, 1895).—Case of an abdominal tumour in a girl of twelve, said to have originated from a fall. Duration of tumour was four months. The enlargement of the abdomen continued, and caused great respiratory distress and œdema of the legs; tapping was tried, but with negative result. It was then decided to make an exploratory incision, when, in addition to two quarts of brown, odourless fluid, an inoperable growth was found involving the parietal peritoneum, mesentery, pelvic organs and cæcum. The abdomen was closed and a large tube put in; but before closing it a portion of the growth was removed and proved by microscopical examination to be a sarcoma, consisting chiefly of round and elongated cells with abundant blood-vessels. Four days after operation injections of filtered toxins of erysipelas were commenced, and from that time the tumour began to decrease in size, large pieces of necrotic tissue being continually discharged through the drainage tube. The tumour in this way gradually disappeared, and patient recovered perfect health.

Practical Notes.

THE employment of animal extracts as therapeutic remedies dates from time immemorial. Pliny tells us that the Greeks and Romans were accustomed in cases of impotence to make use of the seminal fluid and testicles of donkeys, animals noted for the disproportionate size of the testes. The famous preparations of castor and musk were introduced by Galen, and enjoyed fame and credit for centuries. From that period to the present day numerous examples of this kind of remedy have always existed in our materia medica.

A FEW years ago Babes, of Bucharest, and Paul, of Paris, revived these forms of treatment, and introduced cerebrine (extract of brain), cardine (extract of heart), muscoline (extract of muscles), etc. Brown-Séguard introduced testicle juice—or didymin, as it has been named, in this country; while others have introduced nephrine, thyroidin, nuclein, etc. The variety of these pharmaceutical products is increasing daily; and while their action is studied with scientific zeal, their increasing number is partly stimulated by industrial enterprise.

ON the whole, the results obtained have fallen far short of what was at first expected of these novelties. The pretended powers of Brown-Séguard's fluid would appear to be more chimerical than real; nuclein has not yet been sufficiently tested; nephrine, muscoline, and cardine are perfectly useless; thyroidin has a decided value in myxœdema and sporadic cretinism. The value of tetanine is discussed on another page of this number; and the diphtheria antitoxin, while full of promise, is still *sub judice*.

AMONGST the Abstracts this month will be found the record of some cases of sarcoma treated with serum holding in suspension the toxins of streptococcus erysipalatosus and bacillus prodigiosus. It would be as well to note that these toxins act somewhat similarly to those of Koch's tuberculin. As the latter has a specific action on those tissues inflamed by tuberculosis, so the mixture referred to above has a particular

effect on sarcomata. Hence it might be dangerous to employ these toxins for very large tumours, especially in the enfeebled; they should be reserved for small tumours so placed as to be inaccessible to free and complete enucleation.

Now that thyroid extract is being used sometimes with more enthusiasm than discretion for every affection from obesity to ozæna, it should be borne in mind that more than one unrecorded death is said to have taken place from its administration. Experiments on animals are now confirming its power of intoxication. MM. Ballet and Enriquez report the case of a dog who died collapsed from hypodermic injection of thyroid extract. M. Reclère fed a monkey on fresh sheep's thyroids: it died in ten days.

GREAT care and prudence are therefore required in prescribing thyroid extract. The pulse is the best guide, and should be carefully watched. Any rapidity or irregularity, especially under slight exertion, should excite suspicion of intoxication. At the beginning of treatment the patient should be advised to remain quietly indoors, or even in bed; all effort and exertion should be forbidden; and, owing to the cumulative action of the remedy, these precautions should be continued for some time after the use of the thyroid extract has been discontinued. As an initiatory dose a quarter of a tabloid twice a day is sufficient.

IN *Médecine Infantile* M. Moncorvo holds that whooping-cough is a malady having its seat in the larynx; that its microbial nature is clearly proved by microscopic examination, inoculation of animals, and the discovery of germs in the sputum; and that local applications of a 1 per cent. solution of resorcin constitute the most effective remedy as yet employed.

A CONTRIBUTOR to the *Therapeutische Monatshefte* relates the case of a boy, aged five, whom he had been treating for several weeks for a violent whooping-cough. Every variety of treatment was tried, but without result. One day the child fell and fractured his femur; in order to set it, he was put well under chloroform, and from that hour the cough ceased. The author suggests that there was more than an accidental coincidence in this. It should be noted, however, that the cough had already lasted six months.

CASES of acute or prolonged whooping-cough are frequently followed by dilatation and incompetency of the right side of the heart, induced by the disturbance to the intrathoracic circulation. Puffy eyelids, some cyanosis of the mucous membrane, slight albuminuria, increase of cardiac area, are amongst the symptoms of this affection. Owing to the strain in the pulmonary circulation, the irritation of the cough is maintained, and nothing succeeds in curing the whoop. Hence the importance of watching the heart and noting any failure during whooping-cough. For treatment nothing is better than digitalis. The circulation soon improves, and the attacks of whooping soon abate and disappear.

PROF. VON ZIEMSEN objects to the tinctures of digitalis and strophanthus on account of their unreliability, and says that both of them should be struck out of the Pharmacopœia. He uses digitalis only in infusion or powder; and strophanthus, in the form of strophanthine, in the dose of $\frac{1}{8}$ grain twice a day. This is not cumulative in its action, and, although not so lasting in its effect as digitalis, is the most preferable substitute (*Münch. med. Woch.*, No. 50, 1894). The tincture of strophanthus is conveniently prescribed in one of the compressed forms, and is not only reliable, but free from the nauseating effect the tincture sometimes has.

STRYCHNINE is the best remedy to restore the heart's action during the compensating period of valvular insufficiency. When existing compensation is disturbed, it is also a valuable adjunct of digitalis.

SOME experimental researches with regard to the prophylactic action of quinine in influenza have been made by Prof. Mossé, of Toulouse. He first of all admits that the microbe of Pfeiffer is the specific cause. He inoculated rabbits with the blood of influenza patients, with pure cultures of the microbe, and with the blood and cultures obtained from inoculated animals. Half an hour before and half an hour after inoculation he injected a solution of quinine into the veins of these animals. His results show the controlling action of the quinine on the nervous phenomena and the temperature curve. Although these observations are only of an experimental order, they will doubtless confirm many in their faith in quinine as the treatment for *la grippe*.

UNLESS there are any contraindications to its employment—such as old age, vascular derangement, etc.—antipyrin still remains one of the most pleasant and rapid remedies for obtaining relief from the symptoms of influenza. Much depends on how it is exhibited, the most common mistake being to give too large doses and at too long intervals. By using the following formula relief is speedily secured, and any depressing effects of the drug are protected against:—

R Antipirinæ gr. v.
Sodæ Bicarb. gr. v.
Spirit Ammon. Aromat. ℥x.
Elixir Simpl. ℥ss.
Tinct. Opii. ℥j.
Aq. Anethi ad ℥ss.
M. ft. Dosis.

S.—One tablespoonful every half-hour for three doses, then every two hours, every three hours, and afterwards every four hours if still required.

This is a digestible form, and not depressing. The combination of a small dose of laudanum rapidly removes the depressing symptoms, and appears to prevent nervous prostration afterwards. Its combination with antipyrin has been extensively used at one of the largest metropolitan hospitals.

THE headache of influenza can generally be best relieved by phenacetin. Its depressing effect is counteracted in the following prescription:—

R Phenacetin, gr. v.
Caffein. Hydrobrom. Efferves. ad ℥ij.

S. To be taken in a wineglass of water, and repeated every two hours for three doses, unless sooner relieved.

As an expectorant in bronchitis, terpene hydrate can be given in perles or in this pill:—

R Terpini Hydrat., gr. iij.
Sacch. Alb.
Gum. Acaciæ q.s. ut fiat pil. j.

Or else in a mixture:—

R Terpini Hydrat., ℥j.
Glycerini q.s. ut fiat sol.
Syrup. Tolut. ad ℥ij.

M. Sig. One teaspoonful every three hours.

A FAVOURITE cough mixture for coughs and colds, particularly after influenza, contains in each dose :—

R Ammon. Bromid. gr. v.
Tinct. Camph. Co. ℥xx.
Ext. Glycyrr. Liquid. ℥v.
Tinct. Digitalis ℥ij.
Syrup. Scillæ ℥xv.
Syrup. ʒss.
Aquæ ad ʒij.

M.

IN the treatment of cystitis, rest in bed, warmth, purgation, and a strictly non-alcoholic and, if possible, entirely milk diet, are the first principles to carry out. Saline diuretics, especially benzoate of soda, may be employed. If there are no contra-indications, small and repeated doses of morphia relieve the pain, and copaiba or sandalwood oil ease the frequent desire for ineffectual micturition. Local treatment varies with the case, and may consist of washing out the bladder with warm solutions of boric acid, permanganate of potash, etc., and attention to rectal or other sources of irritation.

WHEN irritability of the bladder is due to an excess of phosphates in the urine, the following mixture is recommended by M. Schun for rapidly calming the frequent desire to micturate:—

R Acid. Benzoic. ʒvj.
Sodæ Biborat. ʒv.
Aquæ ad ʒviij.

M. Sig.—One tablespoonful for a dose.

FOR ophthalmia neonatorum M. Kalt recommends solutions of permanganate of potash. He employs it in the strength of 1 to 5,000, and directs that it should be used freely, a pint or more being directed between the lids from an irrigator twice a day. He holds that it can be effectively used by midwives and nurses who could not be trusted with the thorough carrying out of the classical nitrate of silver applications. The value of his plan has been severely criticised, and readers should refer to Mr. Tweedy's lecture and an abstract of a paper by Professor Budin, both of which will be found in the last number

THE PRACTITIONER.

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Original Communications.

ON TREATMENT OF CHRONIC HEART DISEASE BY THE METHODS OF DR. SCHOTT, OF NAUHEIM.

BY JOHN F. H. BROADBENT, M.D., M.R.C.P.

WITH SOME REMARKS ON THE MODE OF ACTION OF THE TREATMENT AND ITS INDICATIONS.

BY SIR WILLIAM BROADBENT, BART., M.D., F.R.C.P.,

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to St. Mary's Hospital.*

THIS subject is one of considerable interest, and has already been brought into notice in England by Dr. Bezly Thorne and others; but as some may not be familiar with this treatment, a brief description and discussion of it may not be out of place. During a short visit to Nauheim last summer I was, by the kindness and courtesy of Dr. Schott, afforded every opportunity of observing his treatment of heart disease as carried out there, and was shown several cases which had derived considerable benefit from it.

The treatment adopted is twofold: (1) By baths containing various mineral substances and free carbonic acid gas in solution. (2) By a series of graduated gentle exercises or gymnastics.

The waters of Nauheim used for bathing purposes are remarkably rich in free carbonic acid gas, one litre of the water containing 1,340 c.c. of gas; they are also rich in mineral constituents, containing from 2 to 3 per cent. of

chloride of sodium, and from 2 to 3 per 1,000 of chloride of calcium and carbonate of iron.

The effect on a healthy adult of such a bath in water having this composition is a slowing of the pulse, with an increase in its volume and force, which may be observed after the lapse of from one to three minutes. At the same time, a tingling sensation and feeling of warmth is produced all over the body from the contact of the particles of carbonic acid gas with the surface of the skin. Immediately on entering the bath a feeling of oppression is experienced, which, however, soon passes off. Usually the excretion of urine is increased after the bath.

It is not advisable or safe at the outset to place a patient suffering from heart disease in a bath so rich in carbonic acid gas and saline constituents, as the effect might be too powerful, and harmful consequences result. Hence, by a course of baths, beginning with those comparatively poor in mineral constituents and containing no carbonic acid gas, the patient is gradually accustomed to the baths, and is eventually able to take with benefit the strongest baths.

Dr. Schott recommends that the patient should begin with a bath containing 1 per cent. of chloride of sodium and 1 per 1,000 of chloride of calcium, freed from carbonic acid gas, and at a temperature of 92° to 95° F. The bath should last from six to eight minutes. As time goes on, the proportion of solids in the baths should be gradually increased, also the duration of the bath, while the temperature should be gradually lowered. Eventually baths containing free carbonic acid gas and the full amount of mineral constituents may be taken.

The baths at Nauheim freed from gas are turbid and reddish-brown in colour, from the precipitation of oxide of iron. The water as it comes from the spring is clear and sparkling; the gas is driven off by allowing the water to gush out in the form of a fountain many feet high, so that the carbonate of iron is oxidised in the process.

For the "Sprudel" and "Sprudelstrom" baths the water is conveyed direct from the spring to the bathhouse by iron pipes. The "Sprudel" baths are those containing the full amount of gas and mineral constituents. In the "Sprudel-

strom" baths the natural waters, fully charged with gas, are allowed to rush through the bath in a continual stream as the patient lies in it, so that the supply of gas and the water are being constantly renewed.

The effects of the baths on a patient suffering from heart disease are similar to those seen in a normal healthy individual, but more marked. The pulse is slowed, its volume and force are increased. In cases of dilatation of the heart, a diminution of the area of cardiac dulness is usually observed, and the apex beat comes in nearer to the normal position; the liver also, when enlarged as a result of right ventricle failure, diminishes in size. These results are more pronounced in the baths rich in gas and mineral constituents than in the weaker baths.

MODE OF ACTION OF THE BATHS.

Dr. Schott believes that the chlorides of sodium and calcium, and the carbonic acid gas passing through the epidermis, stimulate the sensory nerve endings, and, by a reflex action on the cardiac nerves and muscle, cause the heart to beat more forcibly and less rapidly. This may explain the slowing of pulse in a healthy adult, as stimulation of any sensory nerve exercises an inhibitory effect on the heart through the vagus; and the particles of free carbonic acid gas must act as an irritant, and stimulate the sensory nerves in the skin. This, however, does not seem sufficient to explain the diminution in size of the heart in cases of cardiac dilatation. It seems probable that in such cases the dilatation of the cutaneous vessels, whether by the warmth of the water in the weaker baths, or by the action of the salts and bubbles of carbonic acid gas in the others, causes a lowering of tension in the peripheral circulation, so that the heart has less resistance to contend against. Secondly, the flow of blood to the skin thus determined tends to empty the left ventricle, and enable it to contract down more fully and completely on its contents.

ARTIFICIAL PREPARATION OF BATHS.

Dr. Schott does not claim for the Nauheim waters an exclusive privilege as a curative agent in heart disease, but

has himself described how baths may be artificially prepared in imitation of those at Nauheim. The essential ingredients he considers to be chloride of sodium and chloride of calcium, and, later in the treatment, free carbonic acid gas.

To make the weakest bath, containing about 1 per cent. of chloride of sodium and 1 per 1,000 of chloride of calcium, one may take 4 lbs. of common salt and one-tenth of that quantity of chloride of calcium to 40 gallons of water. These proportions may be gradually increased, as may seem desirable, up to three times that amount.

Ordinary sea-water contains about 2·7 per cent. of chloride of sodium, and is thus nearly as rich in this constituent as the Nauheim waters. It does not, however, contain any chloride of calcium. If the right proportions of this salt were added to the bath, there seems to be no reason why sea-water should not be as efficacious as the Nauheim waters; and it should be superior to an artificially-prepared bath. It could easily be diluted so as to contain 1 per cent. of salt for the commencement of the treatment.

For the production of carbonic acid gas bicarbonate of soda and hydrochloric acid may be used. Thus for a bath of 40 gallons one may take about 6 ozs. of bicarbonate of soda and 7 ozs. of hydrochloric acid of B.P. strength to begin with. This would leave an excess of alkali. These quantities may be increased according as it is thought advisable to increase the proportion of gas in the water, so that five or ten times that amount of each may be used eventually.

It is best to dissolve the bicarbonate of soda in the bath first and add the acid a few minutes before the bath is taken, stirring energetically. The evolution of gas will continue some five to fifteen minutes, as it takes some time for all the acid and alkali to come into contact in this volume of water.

A pint of water is said to dissolve 16 grains of carbonic acid gas. Hence, to saturate 40 gallons of water about $1\frac{1}{2}$ lb. of bicarbonate of soda and $2\frac{1}{2}$ lbs. of hydrochloric acid would be required, calculating from the atomic weights.

But as this would be too large a quantity to use for practical purposes, and the gas would be given off too quickly, it would be better, where it is desired to have a large amount

of carbonic acid in the water, to make use of cylinders of the compressed gas, and allow it to pass through the water in the quantity desired.

TREATMENT BY GYMNASTIC EXERCISES.

The exercises consist of a series of simple movements of each limb and of the trunk made against slight resistance, so that every muscle of the body, as far as possible, is in turn brought into play.

The movements should be made slowly and systematically, and a short interval should be interposed between each. They should be stopped if the patient experiences the slightest distress in breathing, or palpitation or discomfort of any kind; as soon as he is rested they may again be proceeded with. The resistance to each movement should be slight, and should be made by a trained attendant.

The movements consist of flexions, extensions, adductions, abductions, and rotations of each limb in turn, and of flexion, extension, and rotation of the trunk. The following is a description approximately of the various movements and of the order which is usually followed in their exercise:—

Movements of Upper Extremities.—The patient stands upright, with his arms by his side, or if too weak he may sit down. Movements of the upper extremities are first practised, beginning with the exercise of muscles round the shoulder-joint.

The attendant stands facing the patient, ready to direct and resist each movement.

1. The arms are abducted from the sides of the body and raised till they are parallel to one another in a vertical position above the head; they are then brought back again in the same way to their original position.

2. The arms are rotated forwards till they are on a level with the shoulder, parallel to one another in front of the body; they are then brought back again to the sides of the body.

3. The arms still being straight, the two hands are made to touch in front of the body at the level of the shoulder, and the arms are then moved outwards till they are as widely separated as possible, making with the body the form of a cross; they are then brought back again in the same way.

4. Movements of internal and external rotation at the shoulder-joint are next practised.

5. The hands being brought on a level with and close to the shoulders, they are pushed forwards till the arms are straight and parallel in front of the body at the shoulder level; they are then brought back again.

6. The forearm is flexed and then extended at the elbow-joint.

7. The forearm is pronated and then supinated.

8. The wrist and each of the fingers and the thumb are flexed and extended alternately, each in their turn.

9. *Movements of Trunk.*—The body is bent forwards from the erect position, as in making a deep bow, and is then gradually extended again till the erect position is again attained.

10. The feet remaining fixed, the trunk is rotated first to the right and back again, and then to the left and back in the same way.

11. *Movements of Lower Extremities: Hip-joint.*—Flexion at the hip-joint of each limb in turn is made till it is raised as nearly as possible to a horizontal position in front of the body, the knee being kept straight; the limb is then brought back again to its original position.

12. Extension is next made till the leg is raised as far as possible behind the body; it is then brought back again.

13. Each leg is then abducted and then adducted in turn.

14. External and internal rotation of each lower extremity at the hip-joint is performed.

15. Next, in a similar fashion, movements of flexion and extension at the knee-joint are made, and movements of flexion and extension and of inversion and eversion of the foot may be performed.

No movement should be repeated except after an interval, the object of the exercises being to bring consecutively into gentle action each group of muscles in the body as far as possible.

The resistance to the movements is made by the attendant taking hold with his hand of the limb which is being moved and gently opposing its movement.

EFFECTS OF THE GYMNASTICS.

Results similar to those produced by the baths are produced—namely, effects on the circulation and heart. The pulse frequency is diminished; its volume and force are increased. The area of cardiac dulness in cases of cardiac dilatation is diminished and the size of the liver reduced.

MODE OF ACTION.

Dr. Schott believes that each muscular contraction, by a reflex action on the cardiac nerves and muscle, causes the heart to beat more forcibly.

Another explanation that may be suggested is the following: The slow movements of each limb bringing into action different groups of muscles in turn causes a flow of blood to these muscles. The contraction of the muscles being slow and gentle does not rapidly force out the contained blood or compress the veins; so that, by the time each group of muscles has been brought into action, the vessels in them are dilated and full of blood. Hence a large amount of blood is withdrawn into the muscular system; this gives relief to the heart, tending to empty the left ventricle and enable it to contract down more completely on its contents. At the same time the peripheral resistance is lessened by the vascular dilatation, so that the left ventricle is better able to drive the blood through the system. The backward pressure in the left ventricle being diminished, the obstruction to the flow of blood through the lungs is lessened and the right ventricle is relieved. Further, the arterioles and capillaries being dilated will receive a larger proportion of blood, which will be transferred from the venous to the arterial side of the circulation. The venous stasis and turgescence which give rise to the hepatic enlargement are thus relieved, and the liver diminishes in size.

RATIONALE OF THE TREATMENT.

It has been seen that the most important results claimed for the treatment, both by baths and exercises, are identical—namely, slowing of the pulse, increase in its volume and force,

in cases of cardiac dilatation decrease in the area of cardiac dulness, approximation of the apex beat to its normal position, and decrease in the size of the liver when enlarged as a result of right ventricle failure. Such are the immediate results, indicating an improvement in the contractile power of the heart and a reduction of its dilatation; but these are not permanent, or the treatment would not have to be prolonged, and the taking of many baths and the performance of many exercises would not be necessary. What, then, is the permanent good eventually attained? Dr. Schott's theory is that, as a result of each bath or series of exercises, the heart is stimulated as the result of a reflex process, so that its contractions become more complete and more forcible—that, as a result of this frequent stimulation and more powerful action, the heart muscle undergoes hypertrophy, till at length the heart, in cases of valvular disease, becomes competent to cope with the extra work imposed on it, or, in cases of dilatation from debility or other causes, recovers from its atonic condition by the improvement in the quality of its muscular coats.

Whether this be the true explanation or not, the ultimate object of the treatment is that the improvement in the condition of the heart and pulse after each bath or series of exercises should become more pronounced and be of longer duration, and ultimately become permanent.

INDICATIONS AND CONTRA-INDICATIONS.

Cases which are likely to derive most benefit from this treatment are cases of cardiac dilatation due to overwork or mental worry; cases of mitral disease where the right ventricle is beginning to give way and compensation threatens to break down. In cases of adherent pericardium with symptoms of cardiac embarrassment it should be tried.

Cases of aortic incompetence are unsuitable unless symptoms of right ventricle failure have supervened.

Cases of aortic aneurysm are unsuitable, as the sudden and frequent changes in the blood pressure can but do harm.

In cases of true angina pectoris this treatment must be practised, if at all, only with the greatest caution. It may be of service in relieving the embarrassment of the heart by

vascular dilatation, and thus act like nitrite of amyl or nitroglycerine; but there is a risk of syncopal attacks, in which a fatal issue might result.

In cases of fatty heart—that is, fatty infiltration, not fatty degeneration—accompanying general obesity, this treatment should be beneficial, and is not attended with danger if carefully carried out.

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In the *Lancet* for March 30th is a paper by Dr. Groedel of Nauheim, advocating a similar treatment to Dr. Schott's, but recommending mechanical gymnastics in preference to manual.

SOME REMARKS ON THE MODE OF ACTION OF THE TREATMENT AND ITS INDICATIONS.

BY SIR WILLIAM BROADBENT, BART., M.D., F.R.C.P.

My personal observation of this treatment and experience of its results have not been large, but they have been sufficient to convince me of its beneficial influence, and to enable me to understand in some degree the way in which the good results are obtained.

The immediate effect of the resisted movements is to enlarge the artery and lower the tension of the pulse in the limb which is being exercised. This is at once perceptible to the finger in a suitable case. Whatever the method by which this effect is produced, it is in my judgment the most important factor in the result. As to the method, I agree in the main with the conclusions arrived at independently by my son—namely, that the resisted movements give rise to a physiological dilatation of the capillaries in the muscles, which is continued into the arterioles and arteries to allow of the additional supply of blood. The resistance to the onward movement of the blood is diminished and the left ventricle is relieved; the output at each systole is increased, the over-distension of the ventricle is lessened, and the contraction is more efficient. At the same time, from the character of the exercises, the compression of the veins, which drives on the venous blood to the right heart and gives rise to the dyspnoea attending exertion, does not take place. There is thus a transfer of blood from the venous to the arterial system, which is the exact reverse of the tendency attending most forms of heart disease. One cannot help being reminded of the extraordinary difference as regards breathlessness experienced by sufferers from heart disease from going upstairs backwards instead of in the usual way. It is not a

mere matter of pace; the ascent can be made more rapidly backwards than forwards without distress. The muscular effect is the same; the difference probably lies in the less rapid propulsion of blood towards the heart.

Such a result had not been foreseen, and it is natural that it should be attributed to reflex influence on the heart. It is not by any means denied that this plays some part in the process, more particularly as diminished peripheral resistance has been shown experimentally to accelerate the action of the heart, whereas it is here accompanied by diminished frequency of the pulse. My observations, however, have led me to the conclusion that the primary and principal effect is on the peripheral circulation.

The Schott treatment thus differs from the Oertel treatment by graduated walking exercise at a certain altitude, not simply in method but in principle. In the latter, the object is to obtain compensatory cardiac hypertrophy by means of exercise and fresh air; in the former, the primary aim is to relieve the over-taxed ventricle, which may open the way to compensatory changes later. The Oertel treatment may indeed supplement the Schott treatment of heart disease.

Experience must ultimately decide how far and in what cases the baths and movements are especially useful. If their mode of action is explained entirely by reference to a reflex stimulation of the heart, which we can neither estimate nor understand, exaggerated ideas will be entertained as to their value and application. They evidently constitute an additional resource in the treatment of failing compensation attended with damming back of blood in the venous system, but there must be limitations and dangers which will have to be ascertained and pointed out. Dr. Schott has not considered the method applicable in cases of arterio-sclerosis, and no doubt with good reason. Whether the effects are attributed to direct influence upon the heart or to relief by relaxation of the peripheral vessels, they cannot be so readily obtained when the arteries are rigid; but if the left ventricle has become dilated in consequence of resistance due to this state of the vessels, it may be possible to relieve it.

In aneurysm of the aorta, the effects on the circulation

would tend to defeat the attempts at repair by laying down laminated fibrin.

An immense field for the treatment will be found in imaginary heart diseases and in neurotic disturbances of the heart.

The value of Dr. Schott's work in developing and demonstrating the remedial effect of baths and exercises in heart disease is enhanced by the freedom from exaggeration in the claims he makes for the treatment and the absence of any attribution of mysterious virtues to the Nauheim springs. Medical men in this country will be all the more ready to send their patients to Nauheim, where under his guidance the good effects are most likely to be obtained, reinforced as they are by change of climate, freedom from work and worries, regulated diet and exercise, and useful discipline of various kinds.

THE HOUSE, IN ITS RELATION TO THE PREVENTION AND TREATMENT OF DISEASE.

BY G. V. POORE, M.D., F.R.C.P.,

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It is doubtful if there be anything which more affects the health of the individual than the house in which he lives. One might also say that there is nothing which affects the progress of invalids, especially chronic invalids, more than the house in which they are treated. Although the house has no *locus standi* in the Pharmacopœia, its relation to the prevention and treatment of disease is so manifest that it is in every way a fitting topic for a physician, and a subject well suited to the pages of *THE PRACTITIONER*.

Modern advances in bacteriology, and the certain knowledge of the way in which many diseases are carried through the air, have given additional importance to methods of house-construction. The danger, for persons who are not immune, of being under the same roof with a case of whooping cough,

measles, scarlatina, diphtheria, typhus, or smallpox has long been recognised; but it is only recently that our eyes have been opened as to similar dangers in relation to tubercle or pneumonia. Pneumonia has now for some years been occasionally spoken of as a "house disease," and the same term has recently—but whether on sufficient evidence, is doubtful—been applied to cancer.

A careful study of the epidemic of influenza, which is showing singular vigour in the sixth year of its reappearance amongst us, has clearly shown that it is communicable through the air. And the way in which whole households go down with it when once it gains a footing in a house, is an additional reason for reconsidering our methods of house-construction.

The main object to be kept in view in building a house, and especially in building a house for invalids, is the supply of *fresh* air. We send delicate persons away from "*home*" in the winter in order that, in sunnier climes than ours, they may find facilities for basking in the open air. We have to bear in mind, however, that during the winter in Europe it is not possible, under ordinary circumstances, to be out of doors for more than one-third of the twenty-four hours as a maximum, and that for the remaining two-thirds of the time the patient has to be indoors. It follows, therefore, that the house in which the patient is to live has an importance which cannot be over-estimated.

In building a house, too much care cannot be taken to insure that all the channels of internal communication—hall, passages, staircases—have independent ventilation of their own. Unless there be the means of getting these internal channels blown out by through draughts, the house cannot be wholesome; and, in the event of any of the air-borne contagia getting a footing in the house, the liability to spread is enormously increased.

Not only must these internal channels have air, but they must have light also. The dark passage, ending in a close *cul de sac* of bedroom doors, is one of the commonest features of the modern house, and is, of course, absolutely to be condemned.

When we encounter the smell of the kitchen in the corridors, this may be taken as sure evidence that the house is unwholesome and that the internal channels of communication are as insufficiently ventilated as is the kitchen. The smell of fried bacon which oozes through the keyhole of your bedroom may be accompanied by all the infective potentialities of all the inmates of the house. This is an important fact which architects will do well to lay to heart.

If the house be of several stories, the ventilation of the staircase has an importance which bears a direct proportion to the height of the house. As a rule, in second-class, and, indeed, in many first-class, houses, the ventilation and illumination of the staircase never trouble the mind of the builder or his architect. Starting from the front passage, the only light of which is from a closed fan-light over the door, the staircase oscillates between water-closet doors and bedroom doors, getting darker and darker as it ascends. In the houses of artisans, every doctor must be familiar with the rancid whiff that comes up the absolutely dark stairs leading to the basement; the cold, damp smell of mildew and soot in the sacred front parlour, where the "register" is closed and the blinds are drawn; and the variety of odours which assault his nose until he arrives at the carbolic sheet protecting the door of the room containing the case of infectious illness he has possibly come to see. Such houses are almost always let in lodgings, and contain several families; and if air-borne contagia ever gain admission to them, it can be no matter for surprise that they are difficult to dislodge.

The same defect of construction is seen in a very large number of London houses, even the smartest. The defects may be shortly spoken as this:—"*that the internal channels of communication, instead of serving for the supply of fresh air, merely facilitate the exchange of foul air.*" This defect of construction is dangerous in proportion to the size of the building and the number of persons it contains.

The shafts for lifts necessarily require independent ventilation as much as the staircases. The monster hotels or towers of flats, from inattention to these details, are liable to be most

unwholesome residences, and to be really dangerous if airborne contagia gain access to them.

There is no doubt that the high value of land has caused houses to be erected with a cubic capacity out of all proportion to the area of ground occupied; and that when the problem for the speculative builder to solve is the screwing the maximum rental out of the minimum area, he is not likely to listen to sanitary considerations so long as he has a sufficiency of foolish or helpless clients.

In London, where we live in a series of towers which lean against each other for mutual support, the death-rate of the different sanitary areas bears something very like a definite proportion to the value of the ground. These both rise as the centre is approached.

Even in London a great deal more might be done to lessen the effects of overcrowding. In the suggestions which the Medical Committee has drawn up for the guidance of the architect in making plans for the extension and ultimate complete rebuilding of University College Hospital, the thorough ventilation of the staircases and corridors is insisted upon; and the building is to be so constructed that it will be impossible for air to drift from one floor to another, or from one ward to another, without first mixing with the outside air. Builders of mansions and hotels would do well to keep the same principles of construction in view.

Another suggestion which has been made is to place the secondary staircases *between the wards and the sanitary offices*, so that the staircase-well forms a cut-off, with cross-ventilation between the ward on one side and the various sinks, closets, and baths on the other side. These secondary staircases are absolutely necessary in case of fire; and, by making them serve a double purpose, a considerable saving of space is effected. This arrangement is shown both in plan and section in Figs. 1 and 2. It is very usual to place some of the ward offices on either side of the ward-approach, and others at the end of the ward. This is, in fact, the common arrangement; but, when adopted, it has the effect of making the ward-approach dark and gloomy, and of placing the ward between a double set of sanitary pipes, with the dangers

inseparable from them. It is, I believe, a sound principle of construction for private houses, as well as for hospitals, to place your sanitary and culinary offices of all kinds on one side of the staircase, and the living rooms on the other. If

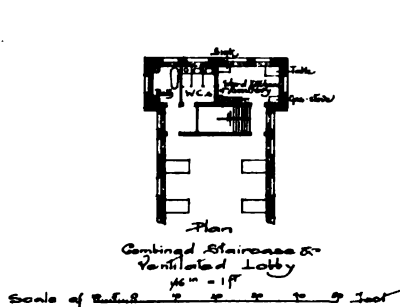


FIG. 1.

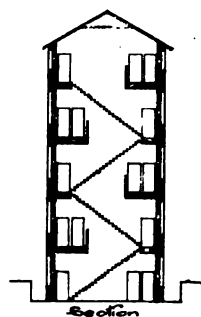


FIG. 2.

the staircase-well be properly ventilated, the risk of living and sleeping in an atmosphere of sewer air is thereby diminished. Fig. 3 is a ground plan of an ordinary dwelling-house which offers a suggestion in this direction. It is the principle only which I wish to illustrate. If the principle be sound, the method of carrying it out will certainly be improved by the experience and cunning of the trained architect.

This figure shows the "offices" to the left and the living rooms to the right of the staircase. The staircase has through-

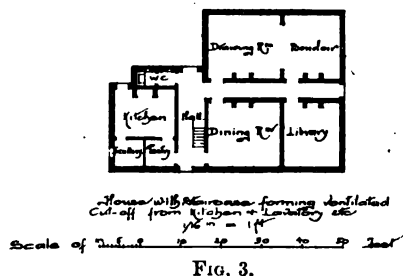


FIG. 3.

and-through ventilation of its own. The passage leading to the sitting-rooms has also illumination and ventilation independent of the sitting-rooms. The w.c. has a lobby with independent ventilation, and the door leading to this lobby

from the hall should be a spring door. It will be observed that the "pantry" (the workroom of the man or maid whose duty it is to answer the door) is placed as near the door as possible, and that this pantry intervenes, so to say, between the kitchen and the entrance hall. If the door between the pantry and hall, and the door between kitchen and pantry, be made to open in opposite directions and close with springs, no smell of cooking will be likely at any time to pervade the living rooms.

Only the ground floor of this house is shown, so that it may be as well to state that, as regards the upper floor, *all* the bedrooms would be to the right of the staircase, while to the left above the kitchen, etc., would be a second w.c., bathroom, housemaid's closet, and box room. The principle of construction which it is wished to inculcate is this—that the culinary and sanitary offices should be quite distinct from the living rooms, and be placed in an annex which should be separated from the living house by a well-ventilated staircase. The living house itself should not under any circumstances contain either water-tap or waste-pipe of any kind.

The cellar (if any) should be beneath the annex, and should be approached from it and not from the living house. A cold dark cellar, which is not infrequently damp and mildewed, should never, I think, be allowed to open into a living house.

In building a house the point which requires more attention than any other is the aspect. This is too often neglected. In a climate like ours one may say that a house should receive its maximum amount of sun. If a house be well exposed to the sun there can be no doubt that the expense of keeping it warm will be considerably lessened. The best aspect for a house is generally conceded to be that which allows its chief rooms to look to the south-east. In this way the morning sun is enjoyed, and the rooms do not get the glare of the afternoon sun, which in July is apt to be intolerable. It may be advisable to build a house in the form of a veritable sun-trap. It is recorded by Assheton Smith, the fox-hunting squire who flourished in the early part of the century, that when Mrs. Smith was ordered by the doctors to winter in Madeira—an order which, if obeyed, would

deprive the squire of his sport—he declared his determination to “bring Madeira to her.” This he accomplished by erecting spacious glass corridors at Tedworth House, so that his invalid might enjoy winter exercise in the sunlight; and as Mrs. Smith outlived her husband, one may fairly credit the squire with having by his lavish expenditure gained the end he had in view.

It is quite possible, however, so to build a modest residence that those who live in it may enjoy a maximum amount of sunshine and fresh air without exposure to cold winds.

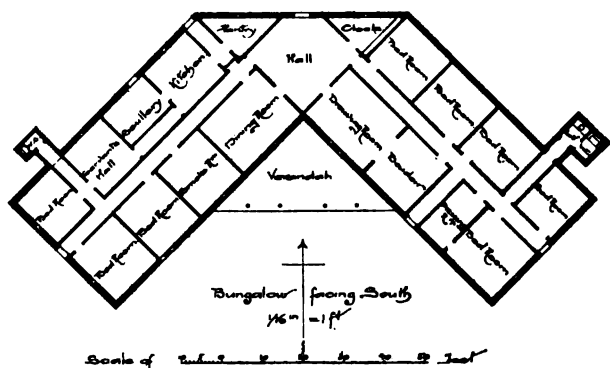


FIG 4.

The ground plan for such a house would have to be that of a right-angled triangle with the apex pointing to the north (see Fig. 4). The sun, even on the shortest day, would, if visible, shine into the angle for over seven hours continuously. In this re-entrant angle there would be complete protection from northerly and easterly winds; and if provided with a glass-covered verandah, it would be possible for even the most delicate invalids to enjoy in it a maximum amount of fresh air.

As only the truncated apex of the triangle faces due north, it is obvious that every side of this house would be bathed in sunlight for a considerable time every day.

The problem in such a house would be not how to keep warm in the winter, but, rather, how to keep cool in July.

There are a few points in the ground plan of this “Bungalow facing south” which may be alluded to. Such a

bungalow, if placed on the south side of a public road running east and west, would require no long carriage-drive of its own. The front door might be quite close to the road (and there are many advantages on the score of economy, safety, and convenience of such a position) without the privacy of the south side being lessened in any appreciable degree.

The absence of stairs means less fatigue for invalids and old people, and less danger for children. Provided the cost of land be reasonable, is there any advantage in having more than one storey to a house? The sanitary advantage of a large area for a house is very great indeed. In hospitals we now recognise that infinitely the most important element of the "cubic space per bed" is the floor area, and that a deficient floor space is not to be compensated by giving great height to the wards. The same reasoning is applicable to a house, and there is this further advantage in giving a large area to a country house, that the greater the area of the roof the greater is the amount of rain-water which can be collected. A bungalow in our climate would certainly provide enough rain-water for all the needs of the inmates.

The shape of this house, with a minimum exposure to the north, is such that every room in it would receive a very thorough exposure to the sun.

A reference to the ground plan will show that on either side of the front door is a window, and that at the end of both the long passages is a big window, so that the channels of internal communication receive an ample supply of light and air, and can be swept by a through draught. The closets (and these should be "dry closets" and not water closets) are cut off from the main structure by a lobby having cross ventilation.

The pantry, the occupant of which usually does duty as hall-porter, is placed immediately between the front door and the side door, so that both doors can be guarded, so to say, at the same time and by the same person.

The kitchen is shut off by two doors, and both of these should be spring-doors, in order to make perfectly sure that the house shall not be invaded by a smell of cooking. The kitchen, nevertheless, is quite close to the dining-room.

The triangular space enclosed by the two sides would, there can be no doubt, need planting with a few deciduous trees and creepers, in order that the shade afforded may undergo a progressive increase as the heat of summer reaches its maximum.

The disposition of the rooms shown is not intended to be more than tentative, and in practice it would certainly be found advisable to have at least one sitting-room with a northerly aspect.

The verandah, it is observed, is big and serviceable, the

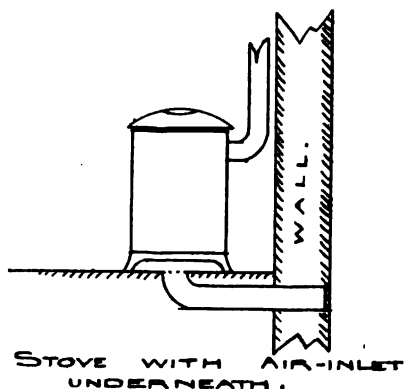


FIG. 5.

object of it being, not merely ornament, but to enable even a delicate person to live practically in the open air. The rooms opening in such a verandah must have big casement windows with low-bottom sills, in order that chairs and tables may be lifted in and out with ease.

The size of the bungalow is greater than

most families would require, but as the plan is merely intended to illustrate a principle this is of no consequence.

Fig. 5 represents an economical and wholesome way of warming the passages of a house. It is intended to represent a stove (any slow combustion stove) with a fresh-air pipe of large calibre opening immediately beneath it. When the stove is lighted there is necessarily a large influx of fresh air, and the result is that the air in the passage is never "close" or "burnt." It is important that the fresh-air pipe should be big, and that its gratings should be easily removable for cleaning.

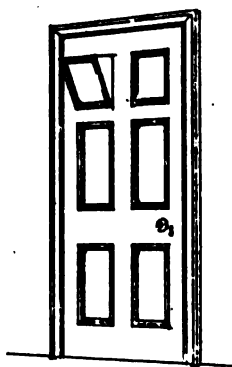
If the hall and passages be warmed in this way it becomes possible to ventilate the rooms *from the passages* in the depth of winter. Fig. 6 represents one of the top panels of a door converted into a Louvre ventilator, with the object of

ventilating a room from the passages. A ventilator of this kind, if provided with side-pieces, delivers its air nearly vertically, and admits a large volume of air without causing draught.

Draughts may be defined as currents of air rushing in at the wrong place through channels which have insufficient area. The only way to cure draughts is to place inlets of sufficient area in proper positions. When building a house one might, of course, place Louvre ventilators in the walls between room and passage at a height of 6 ft. 6 in. above the floor. The alteration of a door panel into a ventilator costs only a shilling or two. In the writer's experience, it is a most excellent way of ventilating a room, *always provided that the air of the passages be wholesome.*

A few words may be said as to living rooms. Most living rooms in better-class houses are too high. This is probably due to the bad example of London. In London the height of a house is the only dimension in which there is, so to say, the least elasticity, and London architects have attempted to compensate by height for absolutely inadequate area.

The rooms of some of the learned societies at Burlington House, with a space of several feet between the top of the window and the ceiling, afford excellent illustrations of the point which is to be avoided. *Windows should extend to within a few inches of the ceiling, and should open at the top.* This is universally admitted. If the room be 12 or 13 feet high, and the windows go to the top, then the window becomes unmanageable from its weight, and the opening of the top, although theoretically possible, is seldom put in practice. The wholesomeness of a room depends very much upon the rapidity with which the air in it can be renewed—the facility, in short, with which one can give it a blow out.



VENTILATING PANEL
IN DOOR.

FIG. 6.

This depends upon the relation of window area to cubic capacity. Windows, again, should be so constructed that they can be easily manipulated by a child. The Louvre window ventilator, such as is common in churches, will be found very valuable for the admission of a constant but relatively small supply of air. These ventilators were introduced by the late Professor John Marshall into his wards at University College Hospital, and with the very best results.

Relatively low rooms, with big mullioned windows going to within a few inches of the ceiling, are far more wholesome than lofty rooms in which the top of the walls are inaccessible to the housemaid, and the window sashes too weighty for her to move without difficulty.

For wholesomeness and comfort I believe a height of 10 feet is sufficient for any domestic living room, and 9 feet for a bedroom. Provided the windows go to the top, and can be easily opened, it is very doubtful if there is any object from the purely sanitary point of view in having rooms more than 9 feet high. In rooms of such a height the cornice of the ceiling can be easily reached by a housemaid standing on a set of hand-steps, and the practical advantage of this is very great.

Our health is more in the hands of the housemaid than most of us are aware. Facility for cleaning should be ever in the mind of both builder and furnisher. The modern boudoir, hung with dabs of mediæval rags and stuffed with furniture and nicknacks till it looks like a transplanted bit of Wardour Street, is often not very cleanly; and when the daylight is excluded to a maximum extent, lest fading should take place, and the sun's rays never have a chance of disinfecting the dust upon and behind the curios, it cannot be very wholesome.

It may be remarked that some of the curtain hangings and chintzes which are now, or were lately, in vogue are dressed or printed with a material which gives them a peculiar "fusty" smell, something like inferior hay. No room in which they are used can ever smell "fresh," and it must be remembered that the smell of "freshness" due to the free admission of light and air is the best practical criterion of wholesomeness.

For discomfort and unwholesomeness the average hotel bedroom is hard to beat. I lately occupied, in a very smart hotel, a bedroom which was 18 feet long, 13 feet high, and had a varying width from 8 feet at the window end to 10 feet at the door end (the room was wedge-shaped, owing to its being at the turn of a building which had a fine circular front facing towards two thoroughfares). The top of the window was at least 3 feet from the ceiling. The window was huge and unmanageable, and access to it blocked by a big dressing-table carrying a huge looking-glass, which, in company with a once white (but now dingy yellow) roller-blind (which would not stop up) and absurdly heavy and costly (and dusty) valance and curtains, succeeded in keeping out most of the light which might otherwise have succeeded in getting through the murky atmosphere of a manufacturing town. The cubic capacity of this room was considerable (2,080 feet), but the 160 feet of floor-space was so occupied by bed, dressing-table, writing-table, wardrobe, chest of drawers, sponge-bath, fender, portmanteau stand, bedside pedestal, two chairs and armchair, bidet, coal-scuttle, and bootjack, that after having extinguished the light, which was at the farthest point from the bed, it was no easy matter to thread one's way back.

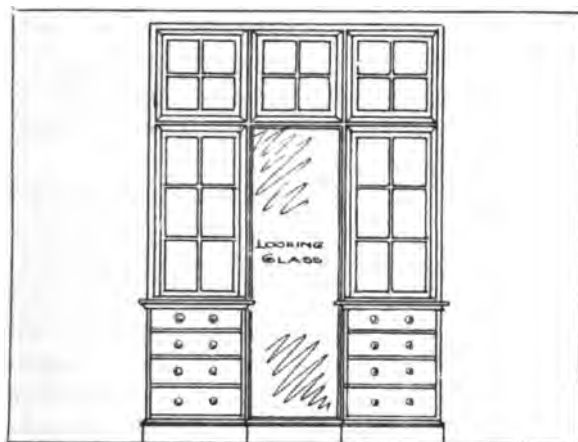
The planning and fitting of a room to serve in the best way possible the purpose for which it is intended is a problem to which architects have paid as yet but little attention. The house-builder might very well take a few hints from the ship-builder. On board ship space is economised to the utmost, and it is a matter of interest and wonder to observe how many luxuries one can have on board a well-planned ship, mainly by reason of the cleverly-designed fittings which economise space; and it is, further, a matter of interest to observe how the principle of "a place for everything and everything in its place" lends itself to cleanliness and wholesomeness. The besetting sin of modern hospital architects is the giving of an extravagant excess of space in places where it is not needed. Because one gives, let us say, 120 feet of floor-space to every patient, it does not follow that any sanitary object is gained by giving a single square inch more

than is absolutely necessary for ward offices. On the contrary, ward offices should be kept as small as possible, so that the "place for everything" doctrine must necessarily be followed. I have seen "ward kitchens" for twenty patients, in which the only cooking done is the heating of a little milk or beef-tea over a gas-jet, which have been about three times as big as a P. & O. galley, in which a succession of banquets are daily prepared for one or two hundred persons. If ward offices be carefully planned and be merely "big enough," with no excess of cubic capacity, not only will initial cost in construction be saved, but cleanliness will be facilitated and cost of maintenance and repair lessened.

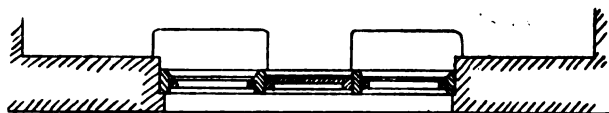
So it is with hotel bedrooms. One lives in hopes of some day seeing a competition among hotels in making the rooms occupied by travellers as convenient and wholesome as possible. There can be no doubt that a "single" bedroom 12 feet square and 9 feet high, containing 1,296 cubic feet, if properly planned, fitted, lighted, and ventilated, would be far more wholesome and convenient than the wedge-shaped apartment containing 2,080 cubic feet to which allusion has been made. Without entering into the whole question of bedroom fittings, one may say a few words as to that very necessary article of daily use, the looking-glass. The swing looking-glass, which continues to hold its own, and which, in spite of "curses not loud but deep," refuses to stop at any angle, surely ought to be abandoned now that looking-glass plate has become so inexpensive. Fig. 7 represents a bedroom window, comprising a thoroughly illuminated long mirror, so that for toilet purposes the face and figure are easily inspected. The looking-glass is surrounded on the sides by window, and the window itself is easily accessible, and is opened and shut with ease. All bedroom windows in tourists' hotels ought to have a balcony, in order that dusty clothing may be shaken in the open air. In hotels all heavy draperies, hangings, and carpets should be tabooed, and every effort should be made to give an appearance of elegance and luxury with a minimum amount of dust-retaining decoration. Hotels are like hospitals in this respect, that guests know nothing of the previous occupants of their room, and it must

often be that such ignorance is blissful. Convenience for the guests and facility in cleaning are the objects to be attained by designers and fitters of hotels.

A very large amount of attention has been given to the best methods of preventing a house from being made unwholesome by emanations from the sewers into which it



ELEVATION



PLAN
BED ROOM WINDOW.

SCALE OF FEET 1 2 3 4 5 6 7 8 9 10

FIG. 7.

drains; and it is not the writer's intention to devote much space in this article to the subject of house-drainage. His views on that matter are possibly known to many of the readers of *THE PRACTITIONER*; and those who may wish to know them will find them in his "Essays on Rural Hygiene."

Assuming that a house be furnished with dry closets for the disposal of excreta, a few words may be said on the

disposal of household slop-water. The difficulties of this matter have been, I believe, much exaggerated. Household slop-water consists of kitchen slops (fat and food-refuse suspended and dissolved in water, of which a considerable proportion has been boiled) and bedroom slops (consisting of soapy water and urine). If these are to be successfully dealt with, it is essential that—

- (a) They be treated separately.
- (b) That they be not allowed to stagnate.
- (c) That they be freely exposed to the air.

The kitchen sink must be raised on a platform, and the waste-pipe must terminate at least 2 ft. 6 in. *above the level* of the ground. If this be done, there can

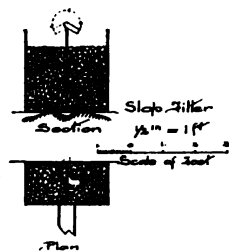


FIG. 8.

be no difficulty in collecting kitchen slops in a tank upon wheels and throwing them on a different piece of ground every day. This is probably the best, cheapest, and safest way of disposing of kitchen slops. They very soon get foul, and they cannot be thrown for many weeks consecutively on the same spot.

This method, however, may not be practicable, and in that case I advise their immediate filtration, with a view to allowing the effluent from the filter to flow in an open gutter to the nearest stream, or rather towards the nearest stream.

Fig. 8 shows a section and plan of a filter for kitchen slops. It will be observed that the filter *is in duplicate*. The waste-pipe of the sink is just above the middle of the filter, and is provided with a revolving nozzle, so that the slop-water can be turned to the right or left at will. Such a filter *must be in duplicate*. As soon as one half gets foul, the revolving nozzle must be turned to the other side, and the foul half of the filter emptied. I have tried such a filter for about seven months, and it has only been necessary to change one-half of the filter once as yet. The effluent from the filter is practically clean, and it has been found so far that the clearness of the effluent and the foulness of the filter bear an inverse ratio to each other. The effluent from this filter runs in an *open*

channel, made of Staffordshire brick gutters, towards a small natural stream which is near. The filtering material consists of broken rubbish and flint, varying in size from a Tangerine orange to a pea. When this filter gets foul, the filtering material must be turned out and be freely exposed to the air. It will soon become quite sweet and fit to use again. That such a filter should become foul is inevitable, but its foulness is not noticeable unless the nose be held close to it or it be stirred. Being above ground and freely exposed to the air, it is easily changed, and the necessity for changing it becomes apparent at once. It can be changed without the aid of a plumber, and cannot give off foul gases into the house. Anybody who has used a filter of this kind and watched its action will appreciate the danger of underground sewers and closed fat-traps, and must realise the enormous danger of hiding these things from the eye and nose, and leaving their foulness to be diagnosed by outbreaks of sore throat.

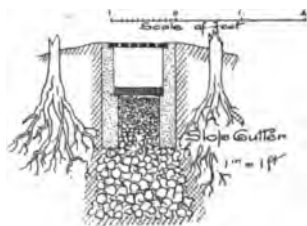


FIG. 9.

As bedroom slops do not contain solid nitrogenous particles nor fat, their disposal is easy. If they be conducted to the surface of the ground, and be allowed to run in a gutter made with a garden hoe and trowel, and be allowed to soak away as they run, they will give no trouble of any kind provided the depth and length of the gutter be proportioned to the size of the household, and my present judgment is that about a yard per person is enough.

As an arrangement of this kind, which costs nothing, is not patented, and can be made by the gardener, is apt to cause people to think that their house is not drained, I have been at some pains to devise a slop gutter, which is shown (in cross section) in Fig. 9. The ground is first dug out to a depth of two feet and filled in with rubbish (brickbats, broken crockery, old canisters, first hammered together, etc.). The lower part of this is rammed, and upon it is laid the concrete which forms the side of the channel. These concrete sides

have two ledges. The bottom ledges are 9 inches from the surface, and upon them rest perforated tiles; the upper ledges are at the level of the ground, and carry a grating. The porous rubbish reaches to the bottom of the perforated tile. It may be stated that the object of the perforated tile, which forms, as it were, the floor of the gutter or channel, is to enable the gutter to be easily swept clean of dead leaves or other *débris* which accidentally find their way into it, while it does not prevent the slop-water from soaking away. The grating is merely intended to prevent persons from stumbling into the gutter, and to give a finish to the arrangement. The sides of this channel are planted with privet, so that the moisture is absorbed from the ground. When the privet bushes reach a certain size they form a protection to the gutter, and the bushes on either side touch each other, so that the slop channel is completely hidden by a thick hedge.

If such a slop channel as this (freely exposed to the air and slanted, and allowing the slops to soak away as they run) were provided in a village or small town, it would be necessary to place it inside the kerb of the side walks in order to protect it from damage by heavy traffic. Flanked by green hedges and with poplars or willows at intervals, such an arrangement would not be unsightly, and it should run along the public walks in order that the public may know whether the inspector of nuisances does his duty in regard of the slop gutter.

It is, of course, equally easy to pass bedroom slops through a filter exactly as has been suggested for kitchen slops, in which case the effluent may run in an open gutter towards the nearest stream.

The recommendations with regard to slop water have also been put in practice by the writer, who now has two houses (one let for a girls' school) which have neither sewer, cesspool, nor trap, in which all the water from the roof and the domestic slop water run in open channels, so that any blockage or other accident is instantly visible and can be instantly remedied.

A great deal has been said of the difficulties of dealing with domestic slop-water, but the writer is free to confess that

he does not know what they are, provided the house have a decent curtilage and a bit of garden. To be quite safe the slop channel should be duplicated, each running in different directions and to be used for alternate periods.

Another point of great importance is the bestowal of rain-water. The usual method is to conduct the rain-water from the eaves by means of pipes which open directly into an underground sewer or empty over a gully which runs into an underground sewer. This underground sewer conducts the rain-water either to a main sewer or cesspool, and the important fact to be borne in mind is that the length of underground pipes whose main function is to conduct rain-water are nothing but prolongations of sewers or cesspools which conduct the gases of putrefaction to many points round the dwelling either at the ground level or the roof level.

There can be no reason why rain-water pipes should not end in a "shoe," and discharge over open gutters which might flow to a gully, if absolutely necessary, at a *distance* from the house. The practice of taking rain-water direct into underground drains is a great cause of damp walls. A year or so ago the rain-water pipes of a country house which the author knows well, which ran direct apparently into the underground drain, were examined. In every case the underground drain was broken and leaky, and in some places completely choked by the roots of plants and trees, while the rain-water got away as it could, and kept the foundations of the walls perpetually soaked.

In the London house, with its cave-dwelling basement and narrow area, it is inevitable that the rain-water must flow to an underground sewer more or less directly, but there is no reason why this cockney necessity should be adopted in the country. It is obviously advisable to conduct rain-water clear of the walls and foundations. The mediæval gargoyle was useful in this way, and I think I am right in stating that the "flying buttress" was occasionally made to serve the purpose of a water-gutter with the same object.

It need not be said that it is bad economy to waste rain-water, but to enter upon the question of the best methods for collecting and storing it would make the present communica-

tion unduly long. The suggestions contained in this paper are many of them only possible where the house is surrounded by a certain amount of ground. There can, however, be no truly wholesome house without adequate curtilage.

March, 1895.

[For the drawings which illustrate this paper I am indebted to Mr. A Blomfield Jackson, of 7, Bedford Row.]

ON THE EFFECT OF INSUFFICIENT ANIMAL FOOD IN THE PRODUCTION OF THE DISEASES OF THE FEMALE GENERATIVE ORGANS.

BY JAMES BRAITHWAITE, M.D. LOND.,

Obstetric Physician and Surgeon to the Leeds General Infirmary.

How very often cases of disease in the female generative organs, such as subinvolutions, flexions, and prolapse, come before us in which there seems to be a "missing link" in the case. There is some explanation required why one patient has a certain affection, and another, under precisely similar or more unfavourable conditions, escapes it.

In hospital out-patient work it is almost impossible to go very minutely into the exact conditions of the patient's life, such as how much and what she eats, and at what time; how many hours she works, and the nature of the work. In the leisure of private work, however, these matters can be more carefully gone into. Under any circumstances, however, our treatment is a little liable to become too stereotyped. For instance, we probably treat all cases of subinvolution alike; whereas there are at least two and probably three or four forms of the disease, possibly requiring the same local but dissimilar general or constitutional treatment.

It has often been to me a riddle why subinvolution should exist at all in some cases which are altogether removed as to time from any puerperal cause. The patient may state that it is several years since a labour or miscarriage, and that following this she enjoyed good health for many years.

Then pelvic symptoms gradually supervened, without any reason that she can give, or that you, on questioning, can discover. The same applies to other affections than sub-involution.

I will give an illustrative case.

Mrs. W., thirty-nine years of age, had had five confinements, and one miscarriage, which occurred three years ago. There was nothing peculiar about the miscarriage, and it left no bad effects, to her knowledge, and there was very little hæmorrhage. She had not been pregnant since, and her health was pretty good, except that she had a "constant tired feeling" up to nine months ago. She then began to be troubled with difficulty of breathing, and one month after this there was some temporary œdema of the ankles, which soon passed off. The next symptom, and immediately succeeding the œdema, was a little vomiting of blood without any dyspepsia or other stomach symptoms. Apparently the exciting cause of these complaints was slight over-exertion, but it was not of such a nature, or so prolonged, as would do any harm to a healthy woman. There were no pelvic symptoms whatever until a month before I saw her. She then began to suffer from pelvic pain and a "bearing down, like labour." The bowels and bladder were not interfered with. Menstruation was perfectly regular, as it always had been, lasting only three days, and she was twenty-five days clear. She had a fairly comfortable and easy life, and was in moderate circumstances. The medical man who sent her to me, from near Keighley, wrote to say that he could get no pessary to remain in.

On examination, I found extreme retroflexion, with a very large uterus, the sound passing $3\frac{1}{2}$ inches. There was also much descent of the pelvic floor. The vaginal walls were very deficient in tone, possessing, indeed, no contractility or resisting power whatever, and the uterus and pelvic floor were in the same state, flabby, soft, and yielding.

The muscular tissue of the heart might be inferred to be in a state of debility and innutrition, and possibly fatty judging by the feeble and short first sound. There was no valvular murmur; no albumen in the urine. I concluded

that the dyspnœa and the œdema of the ankles were from cardiac failure.

Now, why, I may ask, should this woman begin with failure of the muscle of the heart, followed in eight months by failure of the muscular tissue of the uterus and vagina, and of the muscular tissue and fasciæ of the pelvic floor? We shall, no doubt, be inclined to think that the large size of the uterus and its extreme flexion dated from the miscarriage, but if so, there were no symptoms whatever for three years.

I found that the patient had tea and bread-and-butter for breakfast, a very little meat at dinner-time, tea and bread at 5 or 6 p.m., and nothing after this until next morning. She had not a good appetite. The explanation of the case I took to be this: that a very poor diet, deficient both in quantity and quality, had impaired the tone of those very parts of the body—viz. the heart and female generative organs—which, being themselves constituted of muscular tissue, require as nourishment material similar to their own. All this trouble would have been avoided by a meat supper at 7 o'clock, and a better dinner and breakfast.

The enlargement of the uterus, possibly, to some extent originated at the time of the abortion, but I think it was principally owing to what is known as menstrual subinvolution. I may remind you that this is a slow enlargement, taking place very gradually, and caused by the deficient tone of the muscular tissue of the uterus, allowing the retention by its tissues of some of the enlargement which takes place at the menstrual period. The organ becomes more and more congested and softer in texture.

I will now give a second case.

Mrs. H., aged 58, married for the first time three years ago only, was perfectly well until about the time of her marriage, when, she says, a mental shock brought on an attack of pain in the left side. After this her "limbs began to feel heavy," and a "bearing down, sickly feel" came on. She presses her hands on both inguinal regions to explain her feelings.

On examination, there is found a certain degree of descent of the pelvic floor, an amount which is often more distressing

than a more pronounced prolapse. There is a big, fat, pendulous belly, the fat being very fluid in consistence; but she is rather thin in every other part of the body.

Her diet consists of tea and bread for breakfast, very little meat for dinner—sometimes none, tea and bread for tea, and half a glass of porter and a biscuit for supper. She keeps a clog shop in a town in Lancashire; and with this, curiously, she combines the sale of bread, which she bakes herself. She was sent to me by her medical man, with a note to say he could “not make head or tail of her case.” The cause of the prolapse is not quite so clear in this case as in the one previously related; but, read with that, it is pretty evident that although hard work may have been the exciting cause, the poor diet was the real and original fault. This woman was quite well able to get more animal food, and she only lived as she had done from ignorance of the consequences of it. On the very day that I am writing this I have had the following case:—

A worn-looking woman, aged 73, a widow for many years, came to my house with her daughter. She walked into the room by little steps of about three inches, her body leaning alternately to the right and left—a little, feeble waddle. She came from Rodley, and stated that she had had no medical man attending her. She “thought her bones were giving way.” The measurements of the pelvis were normal, and I could find nothing whatever the matter except some prolapse.

There was, I thought, some loss of muscular power of the legs; but this was doubtful, for the knee-jerk was normal. She had no teeth, and could not eat meat. She sits all day dressmaking, and has no muscular exertion of any kind. How, then, came the prolapse? Innutrition, added to old age, were, no doubt, the causes. Still, the treatment of such a case by pessaries alone would be unscientific. I told her to live as well as she could as regards animal food, using potted meat and fish a good deal, and twice a day. I did not put in a pessary at all, but told her to recline on a couch as much as possible during her work.

Such cases could be multiplied indefinitely. The idea (malnutrition) is not my own—my attention was first drawn

to it by a remark in some paper published by the late Dr. Graily Hewitt. It was to the effect that, being the physician to a home for "decayed governesses," he was surprised how many of them had uterine flexions. He attributed this to their impoverished circumstances. Most—in fact, all my cases; and I have seen a great number—erred, not from inability to procure a proper amount of nitrogenous food, but from ignorance of the necessity for it.

There is another disease—if an aggregation of symptoms, without any absolutely certain explanation of them, can be called a disease—which is intimately allied with the diseases of innutrition already alluded to.

I may say that I do not myself accurately understand the explanation of the symptoms complained of by patients suffering from this affection, but have a theory which I will explain. It can be best described by a case or two.

Many years ago I saw, at her own home, a woman between 50 and 60 years of age, who complained that she was always in pain in the lower half of the body when standing. She was, however, quite easy when lying in bed on her back, or a little turned either to the right or left side, and supporting the body with her hands joined underneath it. She had been a rather stout woman, but was then much thinner. The abdomen was rather fat and somewhat pendulous. The fat was very soft, almost semi-fluid, and the abdominal muscles relaxed. I examined this woman most minutely; but, except tenderness to deep pressure, nothing was discoverable. There was no prolapse. The patient had worked very hard and lived poorly. It was this case which first drew my attention to the subject; but I have no notes of it, and can only relate it from memory. From that time to this I have occasionally, but very rarely, met with similar ones, the last of which I will relate.

Mrs. W., aged 51, is the wife of a collier in a small village about fifteen miles from Leeds. She is a thin, active, and very intelligent woman. She is the wise woman of the place, and was called in in most cases of illness to give her opinion and assist, with or without the further advice of a medical man. In addition to this, she has worked very hard at her

own home, and sometimes in agricultural work in the fields. She has had twelve children and two husbands.

A woman undergoing all this wear and tear ought, of course, to live well, but instead of this, as she dislikes meat, she has only had it once a day in small amount, and the other meals have been poor, not from want of means, for there is an income of £6 a week, from the earnings of her husband and her sons. For four months and a half she has been more or less in bed, as she is only easy when lying on her back. If she lies quite over on her side, pain in the lower half of the body comes on, but is relieved by support or pressure, and she cannot bear to stand or sit up long.

The beginning of this pain four months ago was due to her helping to lift an invalid in bed. The result of abdominal examination was similar to that described in the other case, except that there was very little fat. There were soft yielding abdominal walls and general tenderness to pressure in the lower half of the body. By vaginal examination, nothing was discoverable except an undue yielding of the pelvic floor on straining; but when not straining, everything felt normal.

Bimanual examination discovered nothing wrong. The temperature was normal, the bowels regular, appetite poor, tongue clean, lungs healthy, urine normal. The only explanation I can give of these symptoms is that possibly there is an elongation or yielding of the mesentery from want of tone, and a pressure downwards caused by hard work and non-expansion of the abdomen from pressure of the stays, so that the bowels are constantly pressed in the only direction they can be—downwards, against the pelvic floor. The mesentery elongates, and the pelvic floor yields.

Whatever may be the explanation, the following is, however, a satisfactory way of treating these cases.

Put on the abdominal surface a little extract of belladonna thinned a little with glycerine. Over this some oil-silk, and then a thick pad of cotton wool, and over all, rather slackly, a good flannel roller bandage. Feed the patient well, giving as much animal food as she can comfortably digest.

At the same time keep the bowels well relieved, and give—if medicine at all is given—a warming tonic containing, amongst other things, a little strychnine or nux vomica. I think this affection is not a neurosis, nor is it from any organic disease, for the patients get well if treated as above described. It is simply a disease of innutrition, like the more purely gynæcological affections named in the earlier part of this paper.

It may be objected to these theories about food that there are countries where the food is almost entirely vegetable (such as Egypt), yet where flexions and prolapse are almost unknown. This may be explained partly by the fact that in hot countries it is unnecessary to consume much animal food in order to maintain good health.

Also, I think, the absence of stays conduces much to preserve health. The constant pressure downwards of these things forces the abdominal contents against the pelvic floor, especially in any work involving stooping, just as the wearing of a belt by working men prevents the expansion of the body and favours the occurrence of hernia.

Various other ailments have a similar origin, especially the various forms of neurasthenia, including aphonia, and even cystitis, from invasion of the bladder by bacteria.

I saw a case lately in which the medical attendant had found the bacterium termo in the urine in considerable quantities. The patient was covered with moles, which had existed about four years. They were so slightly raised above the skin as to be hardly felt by touch, but were to the sight nearly black. On microscopically examining a scraping of one of these black patches it was found to be owing to the growth of a mycelium. The origin of the whole case was imperfect nourishment. This fault underlies a greater number of diseases, major and minor, than many may suppose, and in fact often forms the key to the whole case.

The Month.

"Quidquid agunt homines."

LET me begin by offering my hearty congratulations to Mr. Christopher Heath on his election to the presidency of the College of Surgeons, a dignity to which his professional eminence justly entitles him. Mr. Heath is a man of marked personality, and in him the College will have an official head worthy of its best traditions. As far as I am aware, he has not conspicuously identified himself with the anti-reform party in the governing body, but he is understood to be generally favourable to the conservative principle in College politics. There is, I imagine, little prospect of the "democratic idea" prevailing in Lincoln's Inn Fields during Mr. Heath's reign. But I have no doubt he will make an excellent president for all that.

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As regards the Albert Medal of the Society of Arts which was presented to Sir Joseph Lister by the Prince of Wales on April 9th, I must congratulate the Society which bestowed the distinction even more than the distinguished recipient. One honour more can matter little to Sir Joseph Lister, whose name has already in his lifetime become a part of every civilised language; but it speaks well for the spirit which animates the Society of Arts that it should have selected such a man for the highest honour in its gift.

Sir Joseph Lister has probably been the means of saving as many lives as Napoleon's ambition destroyed, and his work, unlike that of the master of "big battalions," will live after him in silent but ever-active fertility of good. We should, perhaps, be thankful that Sir Joseph Lister has been honoured at all, for men like him have too often in the world's history been ignored or even persecuted. But what, after all, is the

recognition he has received from the State compared with what would have been his had he displayed but an infinitesimal portion of the same capacity in soldiering or in politics? Till the mental vision of the public is corrected by a better appreciation of the "realities" of things, its moral perspective will be all wrong. It is certain, however, that the time will come when the physician will be held in greater honour than the fighting man.

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In this train of congratulations I must not forget to congratulate Mr. Victor Horsley on his election to the Athenæum Club. He was elected by the Committee under the clause in their rules which empowers them to elect from time to time a few men of special distinction without submitting the names to the ballot. Mr. Horsley is, I believe, one of the youngest members ever elected in this way, which is almost as sure a sign of recognised eminence as receiving the honour of large print when one writes to *The Times*.

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University College Hospital is in the unique position of having three baronets, representing the three great departments of the healing art, on its consulting staff. There was more than usual justification, therefore, for celebrating the event with the customary ceremonial dinner. The affair was a brilliant success, thanks to the excellent arrangements made by the honorary secretaries, Dr. Poore and Mr. Meredith. The speaking was good, but there was somewhat too much of it, Lord Reay, the chairman, being the chief offender in this particular. Sir Henry Thompson was inaudible; but Dr. Champneys's speech was a model of after-dinner oratory. Sir John Erichsen almost broke down, and many of his hearers were reminded of Dr. Johnson's pathetic reference to the fact that recognition had been withheld till he was solitary and could not share it; Sir Russell Reynolds was entertaining and anecdotal, as usual; Sir John Williams spoke with the direct plainness which is better than eloquence. To all three toasts I add my humble *Prosit*.

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It is somewhat remarkable that of the eight Speakers of the House of Commons elected within the last hundred years two should have been sons of members of the medical profession. The father of the newly-elected Speaker was Dr. Manby Gully, M.D. of Edinburgh, the well-known hydropathic practitioner of Malvern. Mr. Speaker Addington, afterwards Viscount Sidmouth, who presided over the debates of the House of Commons in the days of Pitt and Fox, was the son of a physician—hence his nickname “The Doctor.” Addington was an excellent Speaker, but was less successful as a Prime Minister, and was soon deserted by his followers—a fact which gave point to Sheridan’s happy *mis*-quotation from Shakespeare: “Doctor, the thanes fly from thee.”

In connection with this subject, the most curious thing to my mind is that our great-grandfathers should have thought it witty to nickname a politician “Doctor” because he happened to be the son of a medical man. We should think it childish if the same nicknames were now applied to Lord Knutsford or to the new Speaker; yet it seems to have gone far to spoil poor Addington’s career. The change of feeling nowadays is well illustrated by the smart retort to a recent impertinence of *The Standard*, which had referred to the different *couches sociales* from which the new Speaker and his predecessor were respectively drawn. The *Westminster Gazette* admitted that there was a difference, but pointed out that it was all in favour of Mr. Gully as a representative of the learned professions, while Mr. Peel only represented successful trade.

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That enterprising medical “daily,” the *Riforma Medica*, of Naples, has made a start in introducing the interview into medical journalism. In a recent number it published an interview between its editor, Professor Rummo, and Professor Ferrannini and Professor Behring. There is nothing of particular interest in it; in fact, the greater part of the interview would seem to have been occupied with mutual compliments. One gathers, however, that Professor Behring, in view of the present uncertainty as to the strength and purity of antitoxic

serum prepared in different laboratories and used in different countries, is anxious to see an International Sero-therapeutic Institute established to which all serum manufactured throughout the world should be sent to be tested by an international committee appointed for the purpose. A standard of strength and quality should be decided on, and the committee should withhold its sanction from any serum which failed to come up to the standard. This should apply not only to the diphtheria antitoxin, but to all kinds of serum intended for therapeutic use. In fact, there should be a control of serum of exactly the same kind as exists in all civilised countries for weights and measures; only it must be international.

This would eliminate the element of *chauvinisme*, on which Professor Behring lays great stress as a disturbing influence in scientific matters. Moreover, it would secure the uniformity in medication which is a necessary condition for the formation of an accurate judgment as to the therapeutic value of the remedy. Professor Behring says that all the scientific authorities to whom he has spoken on this subject, and particularly M. Roux, are in agreement with him as to the desirability of such an institute as he has in his mind. He is indifferent what country may be chosen for the purpose, provided the thing is done.

Professor Ferrannini suggests Switzerland as at once central and not likely to excite national jealousies. He goes further than Professor Behring by hinting that such an institute, if it ever came into existence, might be a kind of permanent International Medical Congress, where the great questions before the medical world could be discussed by representatives chosen by the various countries for their special competence in regard to the particular matter in debate. It might not be a bad thing if a substitute could be found for the scientific Babels which now serve the purpose of international discussion of medical questions, but there are more difficulties in the way of the practical accomplishment of any such scheme than our enthusiastic Continental friends seem to be aware of.

The twelfth volume of the "Transactions of the Royal Academy of Medicine in Ireland" (Session 1893-94), edited by Mr. William Thomson, the General Secretary of the Academy, is a record of work of which any scientific society in the world might well be proud. The Academy is an admirably organised body, composed of six sections: Medicine, Surgery, Obstetrics, Pathology, Anatomy, and Physiology and State Medicine, each with its own president, secretary, and council. The affairs of the Academy are managed by a Council consisting of the President, the ex-Presidents, the six Presidents of Sections, the General Secretary, and Treasurer, the Secretary for Foreign Correspondence, the six Secretaries of Sections and eight Councillors, being two representatives from the medical, surgical, obstetrical, and pathological sectional councils respectively. The Academy consists of Fellows who pay an annual subscription of two guineas; of Members who pay one guinea; and of Student Associates who pay five shillings. The Members have practically the same privileges as the Fellows, except that they do not receive the "Transactions" free; they can, however, purchase them at cost price. The report printed in the volume before me shows that in the session 1892-93 the Academy numbered 242 Fellows, thirty-six Members, and twelve Student Associates. The financial position of the Academy, without being exactly brilliant, was satisfactory.

I have described the organisation of the Royal Academy of Medicine in Ireland thus in detail because it appears to me to offer an instructive example to us with our dozen or so of societies, all to a certain extent competing with each other, and thus defeating the object for which they were founded, and which, it must be presumed, they are intended to further. Can there be any possible doubt that such a multiplicity of societies is not merely inconvenient to busy men, but retarding to the progress of medical science? The sole end of a society's existence is to be a scientific Exchange where every "new thing" is submitted to the judgment of the profession. An artist sends his pictures to the Royal Academy because there they will be seen, their merits appraised, and their

shortcomings pointed out. So it should be with us. With so many societies, however, a man's work stands a good chance of never coming to the knowledge of many who would be interested in it. I have already dwelt on the "most admired disorder" of subjects which too often makes a meeting of one of our London societies a source of confusion and boredom rather than of intellectual edification. Think of the grievous spiritual state of a man who has sacrificed an evening in order to take part in discussing a paper which is never reached! Pity the sorrows of a poor President who has to preserve an air of dignified wisdom during the reading of communications of which he understands little or nothing! Lastly, consider the needless expense of the present system. A man who wishes to keep himself abreast of the advancing tide of knowledge has in London to belong to six or seven societies, at a cost of eight or ten guineas; whereas, as the example of Dublin shows, the same advantages can be had for two. When the remedy is so simple, why should the evil be allowed to continue?

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King's College Hospital has followed the lead of St. Bartholomew's, Guy's, and St. Thomas's in publishing its annual report in the form of a volume containing, in addition to the usual statistics, a number of original communications from members of the staff and miscellaneous items of information interesting to past and present students of the school. Professor Curnow contributes the first part of an excellent historical sketch of the rise and progress of King's College and Hospital; Dr. Lionel Beale discourses pleasantly and instructively of "The Curable Stage of some Incurable Maladies," with special reference to chronic rheumatoid arthritis; and Dr. Duffin deals in a judicial spirit with "The Abstraction of Blood clinically considered." Dr. Greville Macdonald treats of "Sneezing" in a lighter vein. Incidentally he discusses the nature of the neurotic temperament. Your neurotic, it appears, feels more forcibly than he thinks; he is ready to give and eager to demand sympathy; he is artistic; and he is conscientious. Hence he sneezes on the

slightest provocation; but we are left in some doubt whether he does so as an expression of sympathy or as an artistic performance, and whether it is his conscience that makes him sneeze or his sneezing that makes him conscientious. If you canterise his over-susceptible nose, do you at the same time sear his over-sensitive conscience? If so, a heavy moral responsibility may lie at the door of the successful rhinologist.

Among the other papers contained in the volume are "A Case of Functional Albuminuria," by Dr. N. Tirard; one on "Some Cases of Pelvic Suppuration in the Female," by Dr. John Phillips; one on "The Principle of Selection as applied to the Administration of Anæsthetics," by Dr. J. F. W. Silk; and one on "Psychological Medicine in Relation to the Medical Practitioner," by Dr. Ernest W. White. Mr. M. Hardy, Mr. F. F. Burghard, and Mr. G. L. Cheatle also contribute interesting articles. The book is excellently got up, and throughout bears the stamp of careful editing, as might be expected from the names of the editors—Dr. Tirard, Mr. Watson Cheyne, Dr. John Phillips, and Dr. Halliburton.

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Dr. Lauder Brunton's Harveian Oration for 1894 has been published in attractive form by Messrs. Macmillan & Co. It deals with "Modern Developments of Harvey's Work," more especially in relation to the treatment of diseases of the heart and circulation. He shows how out of Harvey's fruitful conception that the motion of the blood might be "as it were in a circle" has grown all our knowledge of the processes of human life in health and disease, of the signs and symptoms which indicate disease, of the mode of action of the drugs and appliances which we use, and the proper means of employing them in the cure of disease. The germ of auscultation of the heart is found in Harvey, who, after referring to the sound caused in the cesophagus of the horse by drinking, goes on to say: "In the same way it is with each motion of the heart when there is a delivery of blood from the veins or the arteries that a pulse takes place and can be heard within the chest."

In connection with this subject Dr. Brunton cites a curious instance of the way we as a nation have of overlooking the work of our own countrymen. The question of the causation of the sounds of the heart was first settled in 1836 by a committee of Fellows of the College of Physicians, consisting of Drs. C. J. B. Williams, R. B. Todd, and John Clendinning, and the conclusions at which they arrived are those now accepted as correct. Yet in recent discussions regarding the origin of cardiac sounds little mention has been made of the work of this committee, and Dr. Brunton himself first learned of its value from a German source—viz. Wagner's "*Handwörterbuch der Physiologie*."

Incidentally Dr. Brunton pays eloquent and touching tributes to two great teachers—one, William Sharpey, who has already passed "beyond these voices"; and another, Karl Ludwig of Leipzig, whose living voice is still an enlightening and inspiring influence among the builders of the temple of scientific truth. These men have this rare quality—rare especially among men of science—that they, not in words merely, but in act and deed, put the service of truth first and their own glory nowhere. Dr. Brunton speaks of Sharpey's "unselfishness in making no claim to what was justly his due"; and he says finely of Ludwig that, "like the great architects of the Middle Ages who built the wonderful cathedrals which all admire, and whose builders' names no man knows, [he] has been content to sink his own name in his anxiety for the progress of his work and in his desire to aid his pupils." Dr. Brunton's oration is well worth reading, not only for its historical and scientific interest, but for its wealth of practical suggestion as to the treatment of circulatory disorders.

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There could hardly be a better instance of our happy-go-lucky way of doing things in this "practical" country than the fact that although every year a considerable number of young medical men are sent out to practise their profession in tropical climes, there has hitherto been little or no attempt

on the part of the medical schools to provide them with opportunities of learning anything of the special diseases with which they are certain to have to deal. They have, in fact, been left to learn this essential part of their business for themselves, at the cost of much painful anxiety and needless labour to themselves, and doubtless of much preventable suffering and waste of life to their patients. Yet it would be difficult to overestimate the influence of our superior medical skill in promoting what the late Sir John Seeley called "the expansion of England." Our Indian Empire, for instance, is largely based on the conspicuous benefits flowing from the introduction of scientific medicine and surgery—practical advantages which appeal more to the "great heart of the people" in a country like India than the finest political sentiments.

To St. George's Hospital belongs the credit of being the first among the metropolitan schools to provide a regular course of instruction in tropical diseases for its students, and the selection of Dr. Patrick Manson for the post of lecturer is a guarantee that the teaching will be thoroughly scientific. Dr. Manson has not only won distinction as an original investigator, but he has had considerable experience as a teacher. He was Professor of the Principles and Practice of Medicine in the College of Medicine for Chinese at Hong Kong, which owes its existence largely to his initiative, and its success in great measure to the administrative ability which he displayed as dean. It is to be hoped that other schools will follow the example thus set by St. George's.

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The case of Dr. Judson Daland, of Philadelphia, which has recently excited general indignation throughout the medical profession in the United States, appears to me to be of special importance in relation to the liberty of action allowed to hospital physicians and surgeons in dealing with the cases under their care. Some time ago the Board of Charities and Corrections of Philadelphia refused to re-elect Dr. Judson Daland to the post of Visiting Physician to the Philadelphia

Hospital on the ground that he had "experimented" on patients. I know nothing of the case beyond what is reported in the American papers, but, as far as I can make out, the alleged experimentation consisted in withholding quinine in a case of ague in order that the blood might be examined with reference to the plasmodium malarie. Taking the facts as they are stated, there is nothing to show that the lives of the patients were imperilled or their recovery materially delayed by the observations. It is absurd to call this kind of thing "experimenting" in any objectionable sense. It is only by such experiments that the art of healing can be advanced; and, as long as neither the life nor the health of the patient is endangered thereby, it is not merely the right but the duty of a physician who is also a teacher to make them. If hospital physicians and surgeons are to be mere routine practitioners, standing on the antique ways of treatment, and debarred from any effort to extend the boundaries of their art, only very inferior men would take such posts. If the authorities of hospitals generally were to act on the unenlightened principle adopted by the Philadelphia Board of Charities and Corrections, the sick poor would lose incalculably more than they would gain by being protected from "experimenting" doctors.

Public Health.

SOME FALLACIES IN REGARD TO WATER ANALYSIS.

IN these days of aggressive scepticism, when even well-established and proved principles of medical science are liable to persistent attack from outside, it is a little curious to observe an occasional tendency to excess of faith in other directions. The chemical analysis of water affords an instance in point. It is, of course, an invaluable means of gaining knowledge of impurities and dangers and unwholesome qualities in water used for drinking; but it has come to be regarded, among a very large section of the public, as something more—as the one and only real proof of purity or impurity. When any question arises as to the purity of a well or stream from which a supply is taken, a sample is sent to the analyst. If his report is favourable, everybody is happy, and the water is supposed to have received a sort of certificate of immunity. If unfavourable, the probability is that the sender will try again, in the hope of a better result next time. Streams which receive sewage higher up, and shallow wells in polluted soil or near churchyards, and even supplies which are found to have actually distributed the infection of enteric fever, must be analysed before the evidence of their dangerous quality is supposed to be complete. For obvious reasons, to be mentioned presently, it sometimes happens that the analyst fails to find chemical evidence of pollutions which nevertheless occur, and then the inconvenient side of an uncompromising faith in the omniscience of the analyst is liable to make itself apparent. The etiology of the outbreak is disputed, or the admitted pollution made light of, because the chemical tribunal has returned a verdict of “not proven.”

The constituents, organic and otherwise, for which the chemist seeks, in order to judge of the character of a water submitted to him for analysis, are present in minute quantity in practically all natural waters, and sometimes in considerable amount in waters which are free from suspicion of contamination in the ordinary sense. He has to measure increments, therefore, not merely totals, and to report upon the water by the light of certain accepted standards based on

experience. When there is extensive contamination at the time of sampling, his task is comparatively easy. He is able to say not only that the water is polluted by organic matter, but that the organic matter is probably of animal or vegetable origin, as the case may be. This evidence for the prosecution may be very valuable and conclusive as to the occurrence of pollution and the unfitness of the water for domestic use. It does not tell us anything as to any past, present, or future appearance of the germs of enteric fever in the water, but where there is excremental contamination there is danger of these. But what if the analyst finds no proof of organic impurity—nothing, that is, in excess of the ordinary standards? This, as evidence for the defence, is inconclusive, and herein lies the weak side of chemical water-analysis, which the public fail to appreciate. There may be dangerous pollution, so slight in degree as not to be measurable in terms of "albumenoid ammonia" or other expressions of organic matter, delicate as these are, or at all events so slight as not to raise the total of organic matter above the passable standard. Moreover, the pollution may be intermittent, so that a sample taken during the interval would betray little trace of impurity. Such cases are, of course, exceptional, but they have to be borne in mind when there is positive evidence pointing to contamination and only negative results from analysis. As regards organic impurities, the real value of water-analysis is to give warning of impurity, and of present and future danger, and this it will often do while there is as yet no other evidence either of pollution or of disease having been caused. When that other evidence, of either kind, is forthcoming, analysis may confirm or explain the facts, but it cannot prove a negative.

Everybody knows that one of the most common causes of enteric fever is the use of drinking-water to which the specific poison has gained access. Sometimes a polluted well gives rise to a few cases, sometimes a large water supply becomes specifically contaminated and causes a widespread epidemic, but in either case the evidence turns upon a special incidence of attacks on the consumers of the water, coupled ordinarily with the demonstration of some possible source of excremental pollution. We will suppose that the water becomes infected on January 1st, and from that time onward infects the consumers, who, in the ordinary course of events, would become ill in about ten days or a fortnight. Allowing time for diagnosis, and for suspicion to be directed to the water, it is not probable that the analyst would appear upon the scenes much before the fourth week. He is then furnished with samples of water taken, let us say, on the 21st or later, and is expected to

find out whether the source from which it comes was likely to have been capable of imparting enteric fever on the 1st. By that time the bacilli of enteric fever would have disappeared; but to the chemist that perhaps matters little, for he does not look for them. His search is for organic impurities and for such inorganic constituents as would tend to confirm the suspicion of excremental pollution. He may thus be able to confirm the conclusion already derived from inspection of the surroundings, to the effect that pollution is actually occurring on our hypothetical 21st of January. If the sanitary inspector and the analyst agree upon this point, they help very materially to explain how the accident happened on January 1st. Although they cannot tell us whether the pollution was ever of a kind to cause enteric fever, it is reasonable to suppose that the excremental contamination which they find on the 21st was going on three weeks earlier, so that the way was open if typhoid excreta happened to be forthcoming at that time. The chemical evidence is confirmatory, or rather explanatory, but if the analyst fail to discover any trace of pollution in the sample taken on the 21st, we cannot accept his results in disproof of the facility of pollution as shown by inspection, and still less as negating the view, based upon totally different data, that the water was pathogenic on January 1st. Pollution may come about in many different ways, not all of which are readily verified by the most careful and minute inspection, especially if the supply be a large public one, having a wide area of collection and a long course of transit and distribution. It varies in degree, too, and some of the worst and most dangerous pollutions are intermittent, so that all chemical trace may vanish in much less time than three weeks. The history of undoubted water-epidemics of enteric fever shows that their duration is often, and indeed usually, comparatively brief. It is therefore a temporary and not a continuous cause which has to be sought. The analyst can prove pollution at a given time, and by repeated analyses continued pollution may be shown, but however satisfactory the results may be, he can never be in a position to affirm, on chemical evidence alone, that the water from the same source was uncontaminated on a date long antecedent to sampling.

The specific poison introduced into the water, though capable of giving rise to an epidemic (possibly after multiplication of the germs in the water itself), may be so trifling in absolute amount, or so enormously diluted, as to yield no appreciable increment of the organic matter of which the chemist is in search. In the classic Caterham outbreak, for example, where the excreta of a single case of "ambulatory typhoid" are supposed to have infected a whole water supply

and to have caused a widespread epidemic, it is scarcely likely that the most expert analyst would have succeeded in detecting any noteworthy increase in organic matter, even if his opportunity had come at the very time when the mischief was taking place, instead of after the usual interval of weeks. There is yet another difficulty which is placed in the way of the analyst, and quite needlessly. Samples are sent to him in such a way or in such a quantity as to be useless. What he wants is half a gallon at least, in a clean stoppered bottle. What he gets is often a pint or so in a bottle of doubtful antecedents and grimy appearance. Senders of samples who have heard that a Winchester quart is canonical for this purpose, but who do not realise that the water is to be examined for a ten-thousandth part of a grain of ammonia per gallon, are happy if they obtain from the nearest druggist a clean-looking "empty" of the right size, even if it bears the ominous label "Liq. Amm. Fort." Under such circumstances the analytical results are apt to be remarkable. A similar degree of circumspection is needed when there is reason to suppose that the water supply of a household is contaminated by lead, and a sample has to be sent to the analyst for his examination and verdict. Let us suppose that the water reaches the tap through a lead pipe of half-inch diameter and fifteen feet long. The first pint that is drawn consists of water that has been lying in the pipe, in contact with lead, since the tap was last turned. The second pint, and indeed all the later flow, will be water from the main beyond, which has only momentarily been anywhere near the lead surface, and has had proportionately little chance of exercising whatever plumbo-solvent energies it may possess. Under such circumstances a quart or half-gallon sample is merely a mixture of two unlike liquids, and if any lead at all be present the analyst will find it and record it, in a proportion which must vary inversely as the bulk of the sample. The larger the bottle, the better the result. The first pint contains most if not all of the lead, and the rest is simply a misleading dilution with comparatively pure water. It is well worth while to send a sample taken after the tap has been running at full speed for a few minutes, in order that the analyst may verify the absence of lead in water collected under those conditions; but nothing but fallacy can result from mixing this with water which has been standing in the pipe, even for a short time. A full-speed sample will also enable him to test the action upon lead experimentally, under standard conditions of time and exposure. The particulars which should be furnished, and without which any report can have but little weight, include the length and approximate calibre

of the lead pipe, and the time for which the water had been allowed to rest in it. Unfortunately these considerations are ignored in nine cases out of ten, and it is not surprising to find that much doubt prevails as to the position of the danger point. The mere statement that water from a given tap contains only so many hundredths of a grain of lead per gallon is practically meaningless. Perhaps the best plan is to send two separate samples, obtained in the following manner. After letting the water run freely for five minutes, to clear out the pipe thoroughly, a quart or two-quart sample is collected while the tap is still discharging at full speed. It is then turned off, and the water allowed to rest in the pipe for a measured period of not less than half an hour, at the end of which the second sample is taken, in volume not exceeding the capacity of the pipe. Then analysis becomes an exact science, and its results have a definite and intelligible meaning.

Bacteriological analysis is quite a different matter, and is not yet included in the popular conception of water analysis. The discovery of the bacillus of cholera or enteric fever in a sample of drinking-water would of course at once settle the question of its character and fitness for use, but the proof of harmfulness can only very rarely be so logically complete as this. The presence of *bacillus coli communis*, again, would be fatal to the reputation of a water intended for domestic use, since it points to excremental contamination, whatever may be thought of its relation to enteric fever. The mere number of microbes, apart from their character, may enable the bacteriologist to affirm that the sample is impure and unsafe, but neither their scarcity nor the absence of pathogenic forms can give much certainty of freedom from risk. As in the case of chemical analysis, the results deal only with the conditions at the moment of sampling. Slight or intermittent contamination may easily fail to yield definite indications in the few cubic centimetres used for making cultures, and especially so as regards the search for actual disease germs.

A Medico-Literary Causerie.

MEDICINE AND POETRY.

PÈRE BOUHOURS was recognised as an *arbiter elegantiarum* by the world of letters of his day, but his name now lives in literary history only by his famous question: "*Un Allemand peut-il avoir de l'esprit?*" The question sounds a little flippant, perhaps; but the worthy Father lived before Heinrich Heine, and it must, we think, be admitted that *esprit* is not the most prominent characteristic of the Teutonic mind. This is a scientific age when all kinds of impertinent questions are asked; and we therefore make no excuse for asking, somewhat in the spirit of the French critic: "Can a doctor be a poet?" Is there any natural incompatibility between the lyre and the lancet? Popular feeling is always in favour of the cobbler who sticks to his last; and the average patient would, no doubt, prefer a prosaic attendant who saw nothing but his "case" rather than a superior being whose eye, in a fine frenzy rolling, was always glancing from earth to heaven and heaven to earth. An old writer says that if a doctor has been gifted by Nature with the playfulness of fancy necessary for the making of poetry, he must find it impossible to keep it alive with the spectacle of suffering and death always before him.

But is it really so? Many members of the medical profession have won great fame as poets, and their works form part of the heritage of creative art which the world would not willingly let die. Goldsmith, Schiller, Keats, and Crabbe have each their place in "the choir invisible of immortal spirits"; and among others who, in varying degrees, had a perception of "the light that never was on sea and land" may be mentioned Thomas Lodge, the Elizabethan dramatist, Akenside, Haller, the great physiologist, Moir ("Delta" of *Blackwood*), Oliver Wendell Holmes, and Thomas Gordon Hake, whose verse was highly praised by Rossetti and other critics who had not exactly failed in literature or in art. Nor should we forget Fracastorius, author of the Latin poem whose hero gave his name to syphilis; Sir Samuel Garth, who sang the fierce wrath of the physicians against the apothecaries; Dr. Tobias Smollett, who, besides his "Roderick

Randoms" and "Humphrey Clinkers," could write a fine ode to Independence, and pay the meed of a melodious tear to the memory of those who fell at Culloden; Armstrong, who hymned the praise of Venus in strains so warm that they dissolved away his practice; Dr. Erasmus Darwin, the grandfather of Charles Darwin, and author of the "Loves of the Plants"; Dr. Wolcott, better known as "Peter Pindar," a comic poet in whose verse poor George the Third and his everlasting "What? What?" still live for those who read it; Leyden, whose elegy was written by Sir Walter Scott; and the late Dr. James Aveling, who wrote a volume of amusing fables in verse. An interesting account of medical men who have written poetry will be found in Mr. Simeon Snell's paper on "Medicine and Letters," reprinted from the *Provincial Medical Journal*.

Among living writers we have Mr. R. Bridges (M.B. Cantab.), one of the best of Mr. H. D. Traill's sixty "minor poets"; Dr. John Todhunter (M.D. Dub.), whose plays breathe the purest poetic spirit expressed in language of classic simplicity and grace; Dr. Weir-Mitchell, who if he had not been one of the foremost physicians would undoubtedly have been one of the most distinguished poets of his time; and Dr. Conan Doyle, who can turn out songs that would have given him a place with the Sucklings, Withers, and Shirleys had he lived in good King Charles's golden days. Then we have Dr. C. F. Grindrod, of Malvern, a historical dramatist of considerable power, and Dr. J. H. Goodchild, author of "Somnia Medici," etc., whose verse won the commendation of Tennyson.

This is a goodly list of medical poets, and might appear to be a sufficient answer to the question with which we set out. But let us look into the matter a little more closely. Of all the poets who have been mentioned, how many were ever practising doctors at all? and of those who did actually practise their profession, how many combined the compounding or ordering of medicines with the composition of poetry? Keats, the greatest name on our list, though as we learn from Mr. Snell he passed the "Hall" in 1816, never practised except as an apprentice. Goldsmith, whose medical degree is somewhat problematical, made one or two efforts to get practice, but gave it up. So little was he thought of as a doctor that in the later period of his career, on his saying that he prescribed only for his friends, Topham Beauclerk suggested that he would do better to prescribe only for his enemies. Crabbe, that "Pope in worsted stockings," as Byron called him, whose verse delighted men of such different mental character as Charles James Fox, Walter Scott, Wordsworth, and Cardinal Newman, failed to make a living as a medical practitioner. Schiller

threw up his position as an army surgeon at the earliest possible moment. Akenside published his "Pleasures of the Imagination" at the age of twenty-three, and never wrote a line worth remembering afterwards; as a physician the principal impression which he left on those who saw him in the wards of St. Thomas's Hospital was that he was supercilious and unfeeling to his patients. Oliver Wendell Holmes is almost the only example of a man who wooed Medicine and the Muses with success at the same time. His best work, however, was done after he had given up practice, and there can be no question that his true vocation was literature. Looking at the facts of the case in the way that has been indicated, we think that it must be acknowledged that there is a decided incompatibility between medical practice and poetry. The doctor indeed, in the words of Matthew Arnold, "sees life whole," but he sees it too close; like the skins of the Court beauties of Brobdingnag to the eyes of Gulliver, life shows all its naked realism to the medical man. Now poetry—"the vision and the faculty divine"—is to a large extent the power of shutting the mind's eye to ugliness. Shelley defines it as "the record of the best and happiest hours of the best and happiest minds," but the true physician's best and happiest hours are those in which he is relieving human suffering; in presence of the stern facts of life and death he cannot be in the mood for the stringing of rhymes. It is the nature of the poet to idealise; the doctor is by profession the most unpromising of realists. He at least cannot shut his eyes to ugliness; he knows better than most men that beauty is but skin-deep, and often not even that. His business is with Nature, not with "Art." Moreover, the Muse is a jealous mistress, who keeps her favours for those who give themselves to her heart and soul. This the doctor, who lives by his profession, cannot do. Consequently, if he attempts poetry, he is likely to be—as the majority of medical versifiers have, in fact, been—one of the humble tribe of mediocre poets who, in the words of Horace, are rejected of gods, men, and booksellers.

Therefore, if the doctor thinks he has a message outside his own special province of study to give to the world, he will, we think, be wise to follow Carlyle's advice and deliver it in plain prose. In this he will have the example of such men as Sir Thomas Browne, Dr. John Brown (author of "Rab and his Friends"), Professor Huxley, and Dr. John Beattie Crozier (author of "Civilisation and Progress," etc.) before him.

It is somewhat remarkable that doctors have not tried their hands at imaginative literature, as distinguished from poetry, to a much greater extent than they have done. Their

training naturally makes them close observers, and they see human nature, not always at its best like the clergymen, nor at its worst like the lawyers, but as it is—a mixture of good and bad, mean and noble. In sickness the conventional “get-up” in which most of us strut about the stage of the world has to be laid aside, and our true nature stands revealed, like an actor’s face when the paint has been washed off, with all its wrinkles and blotches. The philosophic physician must needs be a student of character, for he knows that unless he takes his patient’s peculiarities of temper and mental habit into account, both his diagnosis and his treatment will often be at fault. Then for plots, the doctor finds them ready made, and often of the most thrilling kind, at the bedside and in the consulting-room. Mr. James Payn has stated that the best plots that have been suggested to him have come from medical practitioners. Yet comparatively few doctors have attempted fiction. Even when they have done so their work has seldom shown any distinctive character traceable to their professional training beyond the avoidance of the absurd blunders which the ordinary novelist is apt to make when he meddles with medical matters. It is particularly noteworthy that they have given us no picture of members of their own profession which can be compared, for instance, with Balzac’s “Horace Bianchon” or George Eliot’s “Lydgate.” Smollett paints the naval surgeon’s mate of last century, but his strength lies in his pictures of the old type of British sailor; Charles Lever, a medical graduate of Dublin, sketches many doctors, but soldiers and rollicking, duel-fighting squireens are his strong points; Conan Doyle is fond of doctors, but has given no such living portrait of one of his professional brethren as that of “Sherlock Holmes” or “Micah Clarke.”

To come back to poetry: We think it may be accepted as a truth of general application that a doctor in active practice cannot be a poet, except by way of amusement. He may trifle with the lyre at odd moments as others do with the violin or the piano, but if he take his poetic gift seriously he must either, in a different sense from Macbeth, “throw physic to the dogs,” or he must consent to cut a figure like Hercules with the distaff. After all, it is a poor ambition to be a poetaster. To the right-seeing eye, a humble practitioner who uses such talent as has been given to him in easing pain, warding off disease, and making life “here where men sit and hear each other groan” less of a burden to those among whom his lot is cast, is a far grander figure than a mere poet who looks at life and its sorrows as materials for his “Art.”

Reviews of Books.

The Schott Methods of the Treatment of Chronic Diseases of the Heart, with an Account of the Nauheim Baths, and of the Therapeutic Exercises.—By W. BEZLY THORNE, M.D., M.R.C.P. London: J. & A. Churchill. 1895. Price 5s.

THIS brochure of sixty-five pages, with an appendix of some illustrative cases, aims at giving a brief account of what is frequently termed the "Nauheim method" of treating certain chronic cardiac affections. The author apologises for defects due to the fact that the scope of his monograph is mainly limited by his own knowledge and observation. The work before us is an epitome based on personal experience; the author does not discuss the principles of hydrotherapy, nor does he refer to the other foreign *Kurorts* where similar treatment is carried out. When referring to resisted exercises, Dr. Thorne twice speaks of them as "these wonder-working movements" (pp. 29 and 61), and ascribes their invention and elaboration to the genius of August and Theodor Schott.

We need hardly remark that passive exercises and resisted movements have been evolving since the time of Ling, and that nearly every little health-resort of Germany and Switzerland has its teacher of Swedish movements and "*Widerstandsgymnastik*."

The use of the term "wonder-working" suggests to us the hope that we are not going to have a "boom" in baths and resisted exercises for heart disease; and Dr. Bezly Thorne most wisely points out that they cannot be prescribed in any rule-of-thumb method, but that each case must be most carefully individualised.

His work will serve to indicate the nature of the baths and therapeutic movements, and the special cardiac and other conditions in which the "Schott system" is applicable. The directions for preparing artificial carbonic acid baths, and the illustrated instructions for the movements, will enable practitioners to try the method on such cases as are prevented from visiting health-resorts where the treatment is particularly carried out.

Dr. Bezly Thorne has produced a useful book giving a clear and practical account of a valuable addition to cardiac therapeutics.

Diseases of the Breast : their Pathology and Treatment, with Special Reference to Cancer. By W. ROGER WILLIAMS, F.R.C.S., Surgical Registrar, Middlesex Hospital. London: John Bale & Sons. 1894. Price 21s.

THIS work contains a large amount of information which will, however, prove of more value to the comparative pathologist and statistician than to the general surgeon. The most valuable portions are those dealing with the congenital variations of the breast with which the book opens, and with the origin and pathology of cancer. The author evidently believes firmly in the Darwinian theory, explaining the occasional existence of mammary tissue in abnormal situations by the statement that our early progenitors possessed seven pairs of breasts reaching from the axillæ nearly to the umbilicus, of which the normal organs represent the fourth pair. The great majority of *mammæ erraticæ* may be assigned to one of these, whilst the few remaining are relegated either to unusual types of reversion or possibly to errors of observation. A very good account of the most interesting cases observed is appended. The chief part of the book is occupied with an account of cancer, and a large amount of useful statistical work is presented. As to its origin from bacilli or psorosperms, the author, as might be expected from his other writings, strongly urges the negative side, concluding that "the microbe of cancer has not yet been discovered because in all probability it does not exist." The question of the contagiousness or not of the disease is next dealt with, and though experimental work is shown to have been generally unsuccessful, yet not a few cases are indicated in which healthy parts of cancerous patients had become infected from contact with the primary growth; but such are looked on as due rather to tissue-grafting than to inoculation of the disease. Satisfactory evidence as to its hereditary nature is also given. The various forms of cancer are described tolerably fully, and we note with pleasure that the term "encephaloid" is dispensed with entirely. Two chief varieties are indicated—the acinous, or glandular, and the villous, or duct cancers. It is a pity that the author has included the duct papillomata with the cancers, since at the present day their existence and distinctive characters are so well recognised as to warrant their being placed amongst the simple tumours. But here, as elsewhere throughout the book, the classification adopted is perplexing and imperfect. Especially is this the case when the sarcomata are under description, since old and well-recognised types of disease are alluded to under the titles "sarcoma" and "adeno-sarcoma,"

without much attempt at separating them from each other; whilst cheloids, both cicatricial and idiopathic, are also included under the heading "Sarcoma of the Breast." The more practical parts of the work are very disappointing. The question of the differential diagnosis of cancer is dealt with in three and a half pages, two of which are occupied with a recitation of cases showing the occasional difficulty of the subject. The operative treatment is discussed at somewhat greater length, and one is glad to see that the author recommends that the axilla should always be cleared out systematically, and also emphasises the fact that the breast is a much more extensive organ than is usually supposed, and hence needs very thorough measures to ensure its total removal. The adoption of antiseptic precautions is advised, but the special plan recommended for the dressing of the wound—viz., by the use of protective and carbolic gauze—is one that has been abandoned by all active and advanced surgeons for at least ten years. The indications and contra-indications for treatment are dealt with in a somewhat bald fashion, and when one turns to see what is recommended for cases where operation is impracticable, one is referred to the *Index Medicus*! As to the results of treatment in cancer, Mr. Williams states that the average duration of life for the operated cases is 16 months more than for the non-operated, the former living 60·8 months after the disease is first noticed, the latter 44·8 months. The book is well illustrated, and, on the whole, is distinctly interesting, but incomplete and scarcely up to date.

Anatomie Normale et Pathologique des Fosses Nasales, et de leurs Annexes Pneumatiques. PROF. E. ZUCKERKANDL. Traduit sur la 2^{me} Édition Allemande par DR. L. LICHTWITZ (de Bordeaux) et DR. P. GARNAULT (de Paris). Paris: G. Masson, 120, Boulevard Saint-Germain. Prix 40 francs.

THIS exhaustive work of the Vienna professor of anatomy is one of the few medical publications which may safely be termed a classical production. It is, indeed, the basis of modern rhinology, and it would be difficult, probably impossible, to find any work of recent years dealing with diseases of the nose and its accessory cavities in which there was no reference to this rich storehouse of observation—the result of dissections of more than three hundred cadavers. There is, indeed, no choice with regard to books on the pathology of the nose; and whatever new researches may bring to light—especially as regards the histology, bacteri-

ology, or chemistry of nasal diseases—Zuckerkandl's work is certain to long remain the foundation of our anatomo-pathological knowledge of the subject. It is so well known already to all rhinologists that it requires no introduction from us. We have only to indicate to our readers the features of the French edition.

The original work was published in two volumes, of which the first appeared in 1882; the second volume was only issued in 1892. In the following year—i.e. 1893—a second edition of the first volume was issued considerably enriched with many details, completing the recently published second volume, and containing so much new matter on the vascular supply of the nasal fossæ, the comparative anatomy of the nose, etc., that it forms practically a new work, differing considerably from the original edition of thirteen years ago.

The complete work, consisting of the second volume published in 1892 and the second edition of the first volume issued in 1893, have now been published in French by MM. Lichtwitz and Garnault. In the German edition each volume was composed of text and plates; the translators have made the work much more easy for reference by devoting one volume to the letterpress and the other to the illustrations. Dr. Lichtwitz is himself a graduate of Vienna, and in this work has associated himself with a colleague of his adopted country. Needless to say, therefore, that the translation is done perfectly, and we have discovered no slip or obscurity in rendering the work into French. In this country so many more practitioners read French than German that they will doubtless be glad to hear that this work is now available in the former language. Even of those who read both, many will be glad to escape from the involved *Zusammensatz* of the Teutonic idiom to the lucid and facile rendering of the French translation.

Meteorology, Practical and Applied. By JOHN WILLIAM MOORE, M.D., etc. London: F. J. Rebman. 1894. Crown 8vo. Pp. 421. Price 8s.

DR. MOORE begins his preface with the confession that the writing of his latest work has been "a labour of love," and few of his readers will be inclined to doubt the fact. The subject is a fascinating one in itself, and has a close connection with many medical problems; but that weather writings may be dry reading some of the text-books bear involuntary though conclusive witness. No such charge can be brought against Dr. Moore's daintily-bound little volume, which is interesting throughout. It is not exhaustive, nor is it meant

to be so, but the abundant references to and quotations from recent authorities make the way clear for those who may wish to follow out any particular point in detail.

The descriptions of meteorological apparatus, including the complex self-recording instruments which modern notions of precision have brought into use, are clear and concise, and the number and quality of the illustrations quite justify the compliment which the author pays to the publisher in that respect. It must not be supposed, however, that Dr. Moore concerns himself solely with instruments and how to use them. On the contrary, he touches upon most of the questions of weather and climate, and many of their applications to medicine. A prominent feature is the account which is given of the work of the weather prophets, if that term may be applied without disrespect to the invaluable services of the meteorological departments of this country and the United States. The British systems of official records and forecasts are dismissed in twelve pages, but fifty are devoted to a most interesting statement of the operations of the United States Weather Bureau, and the singular means which have been devised for giving publicity to their forecasts.

The majority of medical readers will probably turn with greatest interest to the chapters which come last of all and deal with the influence of weather and season upon the incidence of the acute specific diseases. They contain many valuable contributions of Dublin statistics, and an outline of the results obtained by leading English and Continental authorities, but they might with great advantage have been very considerably amplified. Thus in discussing the seasonal curve of measles, Dr. Moore does not refer to the suggestive remarks which appeared in the Registrar-General's annual report for 1884, or to the New York statistics which Buchan and Mitchell made available years ago. The double curve, with maxima in June and in December or January, is true enough for London and Dublin and many other places; but, as the Registrar-General has pointed out, the winter maximum, which in those cities is the greater of the two, is wanting in the records of several populous centres in England and abroad. With regard to scarlet fever again, Dr. Moore agrees with Dr. Ballard in recognising a relation between temperature and the prevalence of the disease, but the demonstration would have been more conclusive had its application to the New York curve been made clear. This, according to Nagle's statistics, is in many respects the reverse of the familiar English curve, and has a maximum in April and a minimum in September. Dr. Moore's proposition is that scarlet fever "shows a tendency to increase when the mean temperature rises above 50° F.,

while a fall of mean temperature below this point in autumn checks the further rise of the mortality." However this may be on the eastern side of the Atlantic, with our spring minimum and autumnal maximum, the thesis would need adjustment for New York application. Rainfall is not mentioned in this connection, although Longstaff and others have shown a somewhat striking inverse relation between rainfall and scarlet-fever mortality.

Dr. Moore has given us an attractive and useful work, which will help to popularise the study of meteorology and climatology, and we congratulate both author and publisher.

The Medical Annual for 1895. Bristol: John Wright & Co.
Price 7s. 6d.

The Year-Book of Treatment for 1895. London, Paris and Melbourne: Cassell & Co. Price 7s. 6d.

WANT of space prevented us from taking note of these two annuals when they made their regular appearance at the beginning of the year. Doubtless most of our readers already have one of them on their study tables, and we need therefore only give some brief indications which will assist others in making their choice. Certainly no busy modern practitioner can afford to be without one or other of these annual summaries of the progress of the profession, and both help to meet a want, but on somewhat different lines.

All compendiums such as the two under notice must naturally present a certain inequality in the value of their different articles, and this is strongly marked in the first of the two volumes under review. Some chapters—such as those on "Diet in Diseases of the Stomach" (Saundby), "Surgery of the Gall-Bladder and Hernia" (Mayo Robson), "Idiocy" (Shuttleworth), "Eyesight" (Simeon Snell), and "Skin Diseases" (Colcott Fox)—are excellent, while others are of very indifferent value. In the volume for 1895 the publishers of the "Annual" have gone further abroad than usual for some of their contributors, and not always with very satisfactory results. The work would be all the better for a little more discreet editing, a better selection of matter, and, it may be hinted, a little less regard for the advertiser.

The Year-Book of Treatment is so well known that we need say little more about it than that the present issue is quite up to the standard of former years. The names of the contributors are in themselves a guarantee of their competence to deal with their respective subjects.

Abstracts from Foreign Journals

MEDICINE.

The treatment of the fatty heart (*Zur Behandlung des Fettherzens*).—DR. THEODOR SCHOTT, Nauheim (*Deutsche med. Wochenschr.*, Nos. 27 and 28, 1894).—In this paper Schott lays down the position that the chief object of all dietetic treatment is to induce the disappearance of fat deposit and to prevent its formation. As we possess no remedy by means of which we can disperse collections of fat in various parts of the body without injury to other and more important functions, and as the absorption of the cardiac fat takes place very late, it cannot be the removal of adipose deposit which leads to the improvement and cure of the patient. Such courses as purgative and "anti-fat" cures which induce the disappearance of fat, and especially that of the heart, bring many dangers with them. There is a difference between the case of a young individual, muscular and of normal blood-condition, who undergoes strict dieting, long-continued restriction to albuminous diet, and decreased amount of food, and one in which fatty heart is complicated by anæmia, diabetes, gout, arteriosclerosis, etc. Especially should too great loss of weight and too rapid emaciation be guarded against. The strict limitation of fluids is not justifiable. In all dietetic regulations the object is to bring the ingestion of food into certain narrow limits by the reduction of the whole quantity or of a part of the carbo-hydrates or fats. With the dietetic rules there ought to go hand in hand the mechanical and the hydro-therapeutical treatment. The first should not consist of bodily over-exertion, but rather in methodical carrying out of careful movements in the open air, which may gradually be increased to the severest form of mountain-climbing. Massage and gymnastics are available with difficulty, according to the time and place. The course of resistance-gymnastics developed by A. and Th. Schott, by which methodical muscular movements of the patient are performed by another person, or self-restricting gymnastics, where the movements are restrained by the action of antagonistic muscles on the part of the patient himself, may be practised generally. This may be supplemented by bath treatment, which acts upon the sensory nerves. But here it is necessary to avoid too long duration of

the bath, too great concentration of the bath constituents, extremes of temperature, and always to be under medical control. The question whether a fatty heart, provided no other complications exist or the affection is not too advanced, can be treated with complete or partial success, to the exclusion of risk, Schott answers in the affirmative. We do not require the searching methods which were formerly recommended. By careful dietetic treatment, with the aid of baths and gymnastics and careful movements in the open air, we possess means enough to combat in an active manner the difficulties and dangers called forth by the different forms of fatty heart.

Baths in arterio-sclerosis (*Ueber Bäder bei Arterio-sclerose*).—DR. GROEDEL, of Nauheim (*Berl. klin. Wochenschr.*, March 18th, 1895).—In a paper read before the Balneological Congress, Dr. Groedel showed that the initial increase of blood-pressure from cold baths is soon followed by a compensating alteration of the tension of the internal blood-vessels. By special precautions, this rise in the blood-pressure, especially the uncompensated and sudden increase, may be minimised; but the cause of those primary rises in blood-pressure, the contraction of the large vessels, disappears readily if the baths contain a larger quantity of salts, and especially of carbonic acid. In consequence of this in these baths, the risk of apoplexy in arterio-sclerosis does not amount to much, and experience confirms this view. The carbonated thermal brine baths may be of service in arterio-sclerosis in several ways.

1. They may relieve many states which frequently occur along with arterio-sclerosis, as chronic rheumatism, gout, neurasthenia, etc. So far as these constitutional states afford favourable conditions for the development of arterio-sclerosis one may, by a course of bath treatment directed towards them, induce considerable benefit to the arterio-sclerosis itself.
2. We may favourably influence the disturbances in single organs and circumscribed areas significant of the origin of arterio-sclerosis, promote the elimination of abnormal blood constituents which injure the endothelium of the vessels and functional activity of the tunica media, and we may perhaps act with advantage upon the innervation of the arterial vessels and the nutrition of the contractile elements in the vessel walls.
3. Of special value is the bath treatment in the consecutive disturbances of the circulation by developing compensation. The author gave a number of contra-indications, and emphasised the importance at the same time of seeing to the removal of injurious conditions as far as they are occasioned by improper habits of life.

Cardiac irregularity consequent on obesity (*Ueber Herzirregularitäten in Folge von Fettleibigkeit*).—DR. KISCH (*Berl. klin. Wochenschr.*, March 18th, 1895).—At the recent Balneological Congress in Berlin, Kisch of Marienbad read a paper on this subject. He began by stating that no functional disturbance in the organism occasioned the individual so much anxiety and apprehension as when the regular action of the heart got disturbed. The educated man is so accustomed from infancy upwards to the regular work of his heart, and is so convinced of its supreme importance, that any disturbance of it readily arouses in him the fear that the heart may refuse completely its office. Kisch has seen medical men who had observed cardiac irregularity in themselves plunged thereby into deep mental depression. There is no reason for this; for, as the author pointed out, irregularity may awaken apprehension in grave disease of circulatory or respiratory apparatus, while, on the other hand, it possesses only trifling significance. The author discussed exhaustively from his own experience the cardiac arrhythmia of obese persons. Slight irregularity, intermittence where, after a series of regular beats, a pause occurs, is observed in youthful patients with slight heart trouble, especially in young girls who exhibit the anæmic form of lipomatosis. Actual irregularity, in which regular beats and pulse pauses alternate, is seen chiefly in fat people who have already passed their fiftieth year, and in whom other symptoms of heart trouble are present. Complete irregularity, in which pulse waves alternating in tension and size regularly follow one another, is seen in cases of obesity with marked heart weakness in which there is dyspnoea, angina pectoris, pronounced backward pressure in the venous system, with œdema and dropsy. Kisch holds, in contradistinction to French authors, that simple cardiac intermittency and slight irregularity are not unfavourable as regards prognosis, and these cases may be seen, after a course of treatment directed to adiposity, to recover their pulse regularity. On the other hand, he regards the occurrence of complete irregularity, delirium cordis, as a sign of grave disturbance of the heart mechanism which can never be completely removed, and is sometimes also the sign of suddenly occurring death. In conclusion, the author discussed the origin, importance, and prognosis of bradycardia.

Enlargement of the heart without valvular disease, with special reference to treatment.—R. H. BABCOCK, M.D. (*Journal Amer. Med. Assoc.*, Dec. 22nd, 1894).—Briefly, the pathological appearances met with in these *post-mortem* cases are hypertrophy and dilatation, the latter depending in

amount on the degree of compensation maintained, flattening of the papillary muscles, associated with more or less fatty degeneration of the muscular tissue. This has no direct relation to the gravity of the clinical symptoms. Associated with general arterio-sclerosis, or chronic interstitial nephritis, there may be microscopic, if not macroscopic, evidence of degeneration. If due to excessive consumption of food or alcohol, the *post-mortem* appearances are surprisingly meagre. The subjects are chiefly males with capacious chests. Enlargement of the left side of the heart is due to strain put upon the arterial system, either by arterial changes, by physical strain, or, lastly, by excessive consumption of food and drink. On the right side it is due to chronic pulmonary disease, either primary, or secondary to enlargement of the left ventricle. The first symptoms are dyspnoea, pain, and oppression in the precordium. The urine is diminished in quantity, of high specific gravity, a small quantity of albumen, and sometimes contains casts. There is some passive congestion of the liver. Arterio-sclerosis is not marked. Oedema is either absent or confined to slight puffiness of the ankles. Death usually takes place from passive pulmonary congestion—rarely by syncope, unless produced by exertion. On examination, the capacious lungs are often found partially to conceal the extent of the hypertrophy. The heart sounds are usually free from murmurs, the first, at the apex, being weak and valvular; the second, at the aortic area, accentuated; and the rhythm may become foetal. The treatment in the early stages is to be directed to removing the cardiac insufficiency. All strain must be avoided; but gentle exercise on the level in the open air is oftener than not beneficial. Over-eating, saccharine and amylaceous foods, uncooked fruits, beer, and effervescing drinks should be strictly forbidden. The chief meal should be at midday. The evening meal should be chiefly composed of milk. A small quantity of whisky with the meals is often beneficial. The body should be well protected against cold. Massage and Swedish movements, given skilfully and carefully, often prove highly beneficial. Prolonged rest in bed in the absence of valvular disease is distinctly harmful, probably because, owing to the absence of the aid of muscular contractions and deepened respiration, the whole work of maintenance of the circulation is thrown upon the already weakened left ventricle. The abnormal arterial tension is best relieved by free catharsis, not too severe. For this, calomel, followed up by a saline purge, is very useful. The saline should be repeated frequently in a diminished dose. Digitalis and its allies are only admissible when the integrity of the right heart is fully maintained,

otherwise the symptoms, coupled with arrhythmia, may be increased. Cardiac stimulants are useful, but have only a temporary value. Strychnia is a valuable heart tonic, should be given in full doses, and is often best administered hypodermically. Another useful remedy is the hourly inhalation of pure oxygen. The distressing cardiac asthma is best relieved by the hypodermic injection of $\frac{1}{16}$ grain of morphine combined with atropine. Where dropsy sets in and resists the use of cathartics and diuretics, acupuncture or Southey's tubes may be used with advantage. Lastly, in three cases in which compensation was either threatened or not irretrievably lost, which the author treated by the "Nauheim method," he obtained astonishingly good results. The apex beat became readily defined, appreciable retraction in the size of the heart took place, and the patient regained ability to walk without much discomfort. This treatment unloads the over-distended heart, strengthens its contractions, and dilates the arterial system.

The author summarises his paper as follows:—(a) By idiopathic enlargement of the heart is meant combined hypertrophy and dilatation without valvular disease; (b) the primary condition is not fatty degeneration, which bears no definite relation to the clinical phenomena; (c) the disease results from prolonged high arterial tension, and is observed most frequently in men with large chests and a tendency to corpulence; (d) abnormal arterial tension may arise from excess in food and drink, and from severe labour combined with immoderate use of alcohol and tobacco; (e) the diagnosis is not difficult, if one remembers that in these large chests actual cardiac enlargement may co-exist with a superficial precordial dulness confined within the so-called normal limits; (f) the first indication for treatment is the lessening of the abnormal arterial tension, which is most readily done by cathartics and regulation of diet and exercise; (g) digitalis is harmful, except in cases in which the weakness is confined to the left ventricle; (h) in cases of general cardiac enlargement and weakness stimulants are called for, such as ammonia, nitroglycerine, ether, valerian, etc.; (i) the hypodermic injection of $\frac{1}{16}$ of a grain of morphine, combined with $\frac{1}{160}$ grain of atropine, is the most efficient stimulant in cases suffering from nightly attacks of cardiac asthma; (j) the "Schott treatment," by baths and gymnastics, seems specially serviceable in this affection before compensation has become irretrievably lost.

Acute and chronic angiospastic dilatation of the heart.
—DR. J. JACOB (*Centralblatt f. innere Med.*, No. 5, Feb. 2, 1895).—The author gives an account of a hitherto undescribed

heart affection consisting in a transient dilatation of the heart, which, however, may become permanent from repeated attacks. The patient is attacked suddenly, or after slight prodromata—such as restlessness, fatigue, and giddiness—by a rigor, sometimes accompanied by pains in the extremities or abdomen; at others by clonic spasms of the limbs. Cutaneous sensibility is diminished, and there may be complete analgesia. The face is pale, and the surface covered with sweat. The limbs are numb and heavy. Vision is hazy, the pupils are dilated, and there may be unconsciousness for hours. The patient has precordial distress, and respirations are frequent and deep. Cyanosis is rare; but in prolonged attacks there may be pulmonary oedema. Sometimes there is a sensation of heart stoppage, at others of palpitation. In the one case the pulse-rate may fall to 50; in the other it may rise to 200. The area of cardiac dulness is enlarged, and there may be pulmonary oedema and albuminuria. The author describes the clinical features of the form with slow pulse, which brings the patient to a sudden standstill with laboured respiration, sometimes with muscular cramp. In severe cases with cerebral anæmia there is sense of impending death with threatened unconsciousness, and the respirations become regular but rapid. This condition may last for hours or days, and then disappear with profuse sweating. The cardiac enlargement lasts about a week, the pulmonary oedema and albuminuria ceasing first. Dilatation may not occur with every attack; but if the attacks are frequent it lasts longer, and may even become permanent. The production of this condition must be referred to one of three causes: (1) To disturbance of heart automatism; (2) to loss of balance between the heart cavities and vascular resistance; or (3) to undue stimulation or inhibition of the cardiac nerves. The author rejects the hypothesis of slowing of the heart having any causal relationship with cardiac fatigue and dilatation. Pulse acceleration, with its increased demands on the heart, would be a more probable hypothesis. The complex of symptoms will not fit in with disturbance of the nervus accelerans. The author lays stress on the hard, small pulse and initial rigor with more or less sudden remission as pointing to angiospasm. Arterial spasm, which spreads to the greatest part of the aortic arch, fully explains the cardiac dilatation. Treatment is discussed very shortly. The author finds his views borne out by therapeutic experience. Digitalis always fails. He recommends large doses of morphine subcutaneously ($\frac{1}{4}$ — $\frac{1}{2}$ grain). It lessens the excitement of all the organs, especially of the vaso-motor centre, thus lowering blood pressure. Coldness of skin and other signs of angiospasm

cease rapidly, and there is no concurrent depression of the circulation. Respiration and circulation soon become normal. Heart dilatation persists for a week, and the pulmonary œdema for from three to four days. Even for threatened unconsciousness morphine is the best remedy. In the treatment of the chronic condition carbonic baths take the first place; but they must be used with discretion.

Affection of the heart, and secondary complications (*Les Affections Cardiaques : Importance des synergies fonctionnelles et des sympathies morbides*).—DR. H. ROGER (*La Presse Médicale*, March 9th, 1895).—This paper illustrates the intimate dependence of all the systems of the body upon each other; and, after giving examples, the author takes the subject up with special reference to diseases of the heart. He classifies the secondary effects under two headings:—(1) Effects which depend upon the contiguity of organs—*i.e.*, their anatomical relations. (2) Those depending on functional correlation of organs—*i.e.*, their physiological connections. Effects coming under the first heading are only shortly considered: they are mostly due to mechanical conditions, such as the results of pleural effusions or mediastinal tumours on cardiac action. But those depending on functional correlation form a wider group, and their intimate connections are generally established by the vascular or the nervous systems. The author points out how at first these secondary lesions are so slight as to be unnoticed and then gradually grow in severity till at last they outweigh the original trouble; in this way the cardiac disease of to-day becomes the hepatic disease of to-morrow. The secondary effects of cardiac failure are then considered, and it is pointed out that these often depart from physical laws in the order of their occurrence; and this is explained by some organs being less resistant than others, owing to various toxic influences they have been exposed to during the life of the individual. It is further pointed out that simple venous congestion will not account for all the symptoms of cardiac failure; it is necessary to allow for any previous diseases which may have affected the organs, and also for the action of microbes, which are constantly in the circulation, and whose access through the alimentary canal is probably simplified by the condition of venous congestion since Signol proved that asphyxia favoured the presence of microbes in the portal veins. It is also known that cardiac failure brings about a condition of auto-intoxication by its detrimental effect on the action of the kidneys, liver, and lungs; and organisms arising in other ways also act on the heart. The delirium of cardiac failure is one of the results of

the retention of poisonous products. Toxines affect the heart through the nervous system, and chiefly by means of the vagus, producing alterations in the rhythm and cardiac sounds. Anginal attacks are supposed by some to depend on the influence of the vagus, and by others are put down to vaso-motor variations. The author ends his paper by observing that a careful consideration of all the secondary effects, and the means by which they are brought about, should form the basis of all rational treatment.

Ocular disturbances resulting from cardiac affections (*Lésions oculaires originant dans le cœur*).—A. TERSON (*Annales de Médecine*, Mar. 10th, 1895).—The case is given of a woman suffering from extreme hypertrophy of the heart due to aortic insufficiency. Ten years ago she suddenly lost the sight in the right eye, and two years ago in the left. Examination revealed the above-named condition of the heart and in the eyes, the results of profuse intra-ocular hæmorrhages. The author considers that most probably arterial changes preceded the hæmorrhage, and that such a hæmorrhage in a predisposed eye might be the cause of a glaucoma. As to the amount of preceding disturbance of sight, there may be none noticed by the patient, or ampliopia and amaurosis may be present. In cases of mitral disease the minute hæmorrhages would probably be venous, whereas their being severe would point to the aorta as the valve affected. With a valvular insufficiency there would probably be mere passive hyperæmia. The less important conditions to be looked for in the eyes of those suffering from cardiac affections are venous pulsation and a diminution of pressure in the arteries. The prognosis of the original malady is rendered graver by the occurrence of any of these lesions. As to treatment, it resolves itself into the relief of the cardiac condition.

Turpentine as a hæmostatic (*Terpentinoel als Hæmostaticum*).—SASSE (*Therapeutische Monatshefte*, Feb., 1895); **Ferripyrin** (*ibid.*).—The author of the first article refers to the but slightly known hæmostatic properties of oil of turpentine, though it has met with considerable success in dental practice. He first used it in a patient who for several hours after an extraction had been bleeding profusely. A tampon of wool soaked in the oil led to an immediate arrest of the hæmorrhage. Hereafter the author was tempted to employ the liquid in the treatment of scurvy. The gums were hourly painted with the undiluted oil, which was also retained in the mouth for a brief period, and administered internally in small doses. The oral hæmorrhage, as well as

the co-existing hæmaturia, gradually ceased, while the patient's health improved. Similarly a hitherto unaffected hæmorrhage from the bladder was cured by the hourly administration of an emulsion of the oil. Finally, Sasse quotes several authors who have successfully employed turpentine in cases of hæmaturia and hæmoptysis. Ferripyrin, on the other hand, is not only intended to act as a hæmostatic, but also as an astringent. It was first produced by Witkowsky, and is a combination of antipyrin, iron, and chlorine. It has already been successfully employed by Hedderich as an application to mucous membranes where even prolonged use leads to no destruction of tissue. It can be used as a powder, but preferably as an aqueous solution, 18—20 per cent. in strength.

SURGERY.

Analysis of the cases operated on with the Murphy button up to date.—JOHN B. MURPHY, Chicago (*Medical News*, Feb. 9th, 1895).—In this communication the author endeavours to gather together the cases which have been recorded so far of the use of the button introduced by him for the operation of intestinal anastomosis, and gives the results indicating the chief causes of failure. A certain allowance must be made for fatal cases which have not been recorded, but even then the figures given below are such as to indicate that a very great advance has been made in intestinal surgery since the introduction of this appliance. The results that Murphy records may be grouped together as follows:—

Gastro-enterostomy for malignant disease	... 29 cases	... 9 deaths.
Pylorectomy	... 4 cases	... 1 death.
Cholecystoduodenostomy	... 38 cases	... 1 death.
Cholecystenterostomy for malignant disease	... 8 cases	... 7 deaths.
Resection of bowel for internal obstruction	... 14 cases	... 1 death.
" " " gangrenous hernia	... 12 cases	... 2 deaths.
" " " fæcal fistula	... 9 cases	... No deaths.
" " " non-malignant disease	... 48 cases in all.	... 3 deaths.
" " " malignant disease	... 30 cases	... 7 deaths.
Lateral approximation — 12 cases	{ 5 for malignant disease, with 2 deaths. 7 for benign growths ... No deaths.	

Of the nine deaths following gastro-enterostomy, four were due to exhaustion, two to imperfections in the technique, and three to peritonitis from infection at the time of operation. Murphy recommends that the smaller buttons should never be used in dealing with the stomach, and that in patients whose general health is much depressed the peritoneal surfaces which are to be approximated should be previously scarified, so as to hasten primary adhesion. In performing

pylorectomy the following is the method suggested:—The contiguous portions of the stomach and duodenum are freed from their omental attachments above and below, so that the tumour can be withdrawn into the abdominal incision and the area of operation packed well around with sponges and gauze. Clamps are then applied above and below the situation at which the incision is to be made through the stomach above the growth; the viscus is then carefully divided, and the wound thus formed at once closed by Czerny-Lembert sutures. The duodenum is similarly divided between two clamps. A Murphy's button is then placed, one end in the duodenal wound and the other in the posterior wall of the stomach, about one inch from the line of suture, and pressed together. The results gained in cholecystenterostomy are most encouraging, especially when one hears that they are derived from the practice of no fewer than twenty-two different operators. Murphy now recommends that the gall-bladder should always be completely emptied of stones before applying the button; he also states that the opening into the intestine becomes so small that there is no risk of infection of the biliary from the gut. Moreover, in not a single case has there arisen any trouble from the button falling back into the bladder, as was originally prophesied. His results in malignant disease only emphasise the fact already noted by Mayo Robson, that such proceedings for this affection are entirely unjustifiable. The deaths in these cases cannot be attributed to the method employed, but rather to the disease. Similarly the operations for end-to-end anastomosis are not nearly so good in cases of malignant disease as when undertaken for faecal fistula, gangrenous hernia, or other simple causes. But in spite of errors of technique by various operators, the general results are very encouraging. End-to-end union is always preferable to lateral anastomosis, and gives better results. In conclusion, it is pointed out that there is no need to restrict the patient's diet after the operation, but liquid food may be given immediately after the effects of the anæsthetic have passed off. The bowels should be moved as soon as possible, and frequent loose evacuations kept up. By this means all risk of occlusion of the button by faecal impaction in the cylinder is avoided. Not a single case of obstruction by means of the button after it has been set free has been recorded, although in a few instances it has been found lodged just within the sphincter ani some weeks after the operation. The great essential to success is to get the mucous membrane well pushed down into the cup of the button before closing it; from not observing this precaution several fatal results have followed.

End-to-end anastomosis of intestines by means of the Murphy button.—DR. JAMES BELL (*Montreal Medical Magazine*, Jan., 1895).—An account is here given of three cases of intestinal anastomosis, of which two were successful. In the third instance sloughing occurred at the site of operation—viz., between the sigmoid flexure and rectum, either as the result of infection during the operation, or more possibly from some impairment of the vitality of the gut wall arising from the character of the preceding constriction or from the use of an elastic ligature as a clamp. The author concludes that in the button we have a valuable aid in end-to-end anastomosis of the intestine. It is, of course, not essential to success, but the great desiderata, rapidity of operation and accuracy and security of coaptation, are both admirably effected by this instrument. Bell opposes the view that has been recently advanced, that it is chiefly useful in the hands of the tiro and is not essential to the experienced surgeon, pointing out that the chief difficulty in any proceeding of this nature lies not so much in the absolute intestinal coaptation as in the steps of the operation which precede this final stage. If a surgeon is incapable of uniting the intestine by suture, he is certainly not fitted to undertake any such operation by any method. Again, the button may be used deep down in the pelvis where accurate union by suture would be almost impossible.

On modern methods of intestinal resection and anastomosis (*Zur modernen Technik der Darmresektion und Anastomosenbildung—Murphy's Knopf, etc.*).—PROF. KÖNIG, Göttingen (*Centralblatt für Chir.*, Jan. 26th, 1895).—This short paper is directed against any "booming" of intestinal resection as a new operation, and points out that the mere introduction of such an appliance as Murphy's button does not necessarily introduce a new era of intestinal surgery. The great advantage claimed for this proceeding is that the time of operation is greatly reduced, and that therefore the mortality from shock is likely to be considerably diminished. König states that he has performed many resections and anastomoses of the intestines without any such assistance, and has never lost a case simply from shock, and hence is very unwilling to give up a proceeding which, although taking somewhat longer to perform, has given most satisfactory results. If the Murphy button generalises the operation of intestinal resection or anastomosis in unpractised hands, it is very questionable whether it will prove of ultimate advantage to the patients.

Intestinal anastomosis.—F. H. WIGGIN, M.D. (*New York Medical Journal*, Dec. 1st, 1894).—A case is here recorded and discussed in which a double anastomosis by the Murphy

button was undertaken for a difficult case of fæcal obstruction which was followed by a fatal result owing chiefly to the use of too large a button for the portion of the intestine operated on. He then proceeds to criticise the operation, maintaining that the button is a somewhat unsurgical appliance:—(1) Because it places in the intestines a foreign body which may be retained and give rise to obstruction; (2) because the patient's safety depends on the care and accuracy with which the button is made, and hence rests "rather on the craft of the cutler than on the skill of the surgeon"; (3) because buttons of suitable size may not be to hand when required; if too large a one is employed, it may cause sloughing and perforation; if it is small, the mucous membrane may slip out of its grasp; (4) because the weight of the button may tend to fix the bowel in a flexed position and hence cause obstruction; (5) because the holes in the end of the button may cut through the gut walls whilst approximation is being made. In consequence of these objections Wiggin recommends the adoption of Maunsell's method as the best plan for uniting the divided ends of the intestine, believing that, although it may take a little longer, yet it is free from most of the objections raised above. He also gives references to several cases in which it has been successfully adopted. In reply to the criticisms mentioned in this paper, Murphy points out that most of them are theoretical rather than actual. The fact that in 136 cases already recorded not a single instance has been reported in which symptoms of obstruction have arisen from retention of the button, and only two in which the button was retained, suggests that there is but little danger to be expected from this quarter. He also states that he has used every effort to secure a supply of well-made buttons, sending accurate instructions and models to the chief instrument makers, but owing to ethical reasons against patenting the button it is impossible to entirely prevent defective appliances being placed on the market.

On intestinal suture (*Zur Technik der Darmnaht*).—ULLMANN of Vienna (*Centralblatt für Chirurgie*, Jan. 12th, 1895).—Two great essentials must be fulfilled in any good method of intestinal suture—viz., absolute closure of the wound, so that no leakage is possible, and rapidity of execution. Formerly the first of these desiderata could alone be obtained, and that best by the Czerny-Lembert method. Recently, however, the introduction of the Murphy button has put a rapid method of union at the disposal of the surgeon; but, according to Ullmann, security is sacrificed to quickness; and although he was one of the first in Vienna

to make use of this proceeding, yet he has now discarded it for what in his opinion is a much better plan—viz., Maunsell's operation. He then gives details of the technique which it is unnecessary to enter into here, since they have been several times published in English medical literature. Ullmann, however, slightly modifies the proceeding by introducing four fixation stitches into the gut, instead of only two, before invaginating the upper into the lower end. A case is appended; it occurred in the case of a young woman aged twenty-seven years, from whom he removed the cæcum and a considerable portion of the colon, in all a segment of the bowel said to be 174 cm. long (!), for cancerous disease. The ileum was united to the descending colon, and a perfectly successful result followed. He mentions two objections which might be raised against this plan of treatment—viz., that only one row of stitches is relied on, and that they penetrate all the coats of the bowel. The first is obviated readily by inserting a second row of Lembert stitches around the site of union from the outer side, a step which, however, practice has shown to be quite unnecessary. In dealing with the second, he suggests that the sutures can be put in on the inner side, if thought desirable, without taking in the mucous membrane. The success of the cases in which this operation has been undertaken according to the original plan is such as to show that this modification is needless.

On intestinal exclusion with total closure of the excluded portion (*Zur Berechtigung der Darmausschaltung mit totalem Verschluss des ausgeschalteten Darmstückes*).—PROF. OBALINSKI (*Centralblatt für Chirurg.*, Feb. 9th, 1895).—In this communication Obalinski defends his method of intestinal exclusion against the attacks which have been made on it by Reichel. His plan consists in shutting off a piece of irremovable diseased intestine by dividing the gut above and below the site of the mischief, and suturing the upper and lower ends together, whilst the affected portion, after being washed out, is completely closed and allowed to remain *in situ*. One objection raised against it was that so much secretion occurs within an excluded portion of the small intestine as to render it unwise to totally occlude both ends of the diseased loop of bowel, it being preferable to bring one end to the surface and make an artificial anus. It is here pointed out, however, that such secretion only takes place in the small intestine, and that this operation is there unnecessary, since extirpation of the growth is almost always practicable. In the large intestine, however, but little or no secretion occurs, and it is for those cases of removable malignant or

simple stricture of this portion of the bowel that the process of intestinal exclusion is particularly indicated. Obalinski claims that such an operation is much better than simple short-circuiting of the growth by lateral implantation or by lateral anastomosis, since in all these proceedings there is considerable risk of regurgitation of fæcal material into the blind end or short-circuited loop of bowel, giving rise to stagnation within it, and possibly dangerous symptoms.

Enterostomy in the treatment of acute intestinal obstruction (*De l'Entérostomie dans le Traitement de l'Occlusion intestinale aigue*).—KUMMER (*Revue Médicale de la Suisse Romande*, Feb. 20th, 1895).—This paper is written to emphasise the importance of relieving the acute symptoms of obstruction by the establishment of a stercoral fistula without seeking for the actual cause of the block, in cases where the patient is in a state of extreme collapse and exhaustion. The high death-rate associated with exploratory laparotomies for this condition is readily explained by the asthenic state of the patient, brought about partly by the want of food, partly by the severe shock induced by the abdominal lesion, but it is also largely dependent on the absorption of toxic products from the stagnant and decomposing fæces; and in the face of such complications it is hopeless to attempt any prolonged or serious operation. If, however, the abdominal distension is relieved by the removal of the retained fæces through an opening made as low as possible, the general condition of the patient may improve sufficiently to allow of a more prolonged search for the cause of the obstruction in a few days, whilst in not a few cases it may suffice to bring about an actual cure, or at the worst allows the patient to die comfortably. Naturally it will be of little use for the more acute forms of obstruction due to strangulation where gangrene of the gut wall is suspected, but in such there is more chance of an accurate diagnosis being made at an early date, and it is especially in reference to the more chronic forms with enormous intestinal distension that Kummer writes. The case on which these remarks are based is as follows:—X. Y., aged twenty-eight years, had suffered for some years from constipation and abdominal distension. Two weeks before coming under observation she had complained of diarrhoea and severe colicky pains, followed by absolute obstruction, which had lasted for a week, and during the last three days had been accompanied by vomiting. All the usual means were taken to relieve the condition, but without avail, and as the abdomen was exceedingly distended and the general state bad, it was determined to undertake an operation. The abdomen was opened

in the middle line between the umbilicus and the pubes, the hand inserted and a cursory examination of its contents made. No actual cause was discovered, and so the distended transverse colon was fixed carefully in the upper angle of the wound and the remainder of the incision closed. A small opening was then made into the gut from which escaped a considerable amount of liquid, decomposing, fæcal material. The result of this interference was most satisfactory, and at the end of a few days fluid injected into the rectum escaped from the fistulous opening. The patient completely recovered, although the fistula remained patent; but little discomfort was experienced from it owing to an excellent obturator, described and figured here, made by Schaltebrand of Geneva.

On the diagnosis of intestinal rupture (*Zur Diagnose der Darmruptur*).—F. BERNDT (*Deutsche Zeitschrift für Chirurgie*, vol. xxxix., p. 516).—In this communication, Berndt discusses the question of intestinal rupture from the diagnostic point of view, emphasising not only the difficulty of establishing the certainty of a lesion of the gut wall, but also the importance of so doing in order to enable the surgeon to undertake an early laparotomy. The effects of a severe contusion are very similar to those produced by rupture, but the author points out that whilst vomiting is present in both cases, its nature varies so much as to constitute it an important element in diagnosis. In simple cases of shock the vomiting is reflex in character, and, although repeated two or three times, is never very serious. On the other hand, where the intestine is ruptured, it is due to the extravasation of the gaseous and fluid contents of the bowel into the peritoneal cavity, and is then always of a persistent and intractable character. Sundry recent investigations are added in which this opinion has been strikingly confirmed.

(1) **On extirpation of the sterno-mastoid in muscular torticollis, with remarks on the pathology of this affection** (*Ueber die Extirpation des Kopfknickers beim muskulären Schiefhals, nebst Bemerkungen zur Pathologie dieses Leidens*).—MIKULICZ, Breslau (*Centralbl. für Chirurgie*, Jan. 5th, 1895).

(2) **On the treatment of muscular torticollis** (*Zur Therapie des muskulären Schiefhals*).—LORENZ, Vienna (*Centralbl. für Chirurgie*, Feb. 2nd, 1895).

The former of these two papers is written with the object of proving that in severe cases of torticollis the only treatment that is of any use is extirpation of the contracted sterno-mastoid; whilst the latter controverts this statement, maintaining that extirpation is but little better than simple division

of the muscle, and that the chief treatment must be directed to the correction of the associated spinal curvature.

Mikulicz comments on the unsatisfactory nature of the ordinary treatment of wry neck either by subcutaneous or open division of the muscle, and also on the difficulty of the after-treatment, relapses constantly occurring as a result of the contraction of the cicatricial bond of union between the divided ends. In the earliest cases attempts were made to save the upper portion of the muscle if it gave any evidence of electrical excitability, and in some instances it was forcibly stretched so as to enable the lower end to be stitched to the clavicle. But such a procedure was soon found to be unadvisable, owing to the tendency to subsequent contraction arising from the extension of the sclerosing process to the portion of the muscle left behind. In two patients marked relapses followed a partial operation, necessitating complete extirpation at a later date. The technique of the operation is sufficiently simple. A longitudinal incision is made over the lower end of the sterno-mastoid between the sternal and clavicular attachments, the platysma and deep fascia divided, and the margins of the muscle defined. The under-surface is now cleared, partly by the knife, partly by a blunt raspatory, so as to enable the finger to be passed beneath it. The attachments to the clavicle and sternum are divided, and the upper end firmly grasped and drawn down so as to enable the surgeon to separate it from its insertion into the mastoid process, care being taken of the spinal accessory nerve, which must be dissected out of the muscular substance, and of the jugular vein, which lies to the inner side along its whole course, and is very exposed to injury. The head is then forcibly stretched to the opposite side, and any tense bands of the fascia or sheath carefully divided and perhaps removed. The wound is closed without drainage, and the head fixed in a good position. As to the *results* obtained, Mikulicz states that he has treated twenty-five cases of torticollis since April, 1891, twenty-two of them being of congenital origin and three occurring in later life. In three cases mechanical treatment sufficed; in five, subcutaneous tenotomy was undertaken; whilst in seventeen patients extirpation of the muscle was adopted—in eight partially and in nine completely. No difficulty arose in the healing of the wounds, which did well in all. After-treatment, in the form of massage and passive movements, was used in most of the cases, but latterly only in those where organic changes in the shape of the bodies of the vertebræ existed. The final results were much more satisfactory than any that Mikulicz had seen as the consequence of simple tenotomy. He considers the only objection a

cosmetic one, arising from the flattening of the side of the neck which must necessarily follow the removal of the muscle; hence he only recommends the operation in the worst cases. The tissue removed was always carefully microscoped. It was generally found to be very widely diseased, and the various stages of the process could be readily traced out, leaving no room for doubt that it was inflammatory in nature and well deserving the title "myositis fibrosa" which has been applied to it. In this opinion Dieffenbach and Volkmann fully concur. As to its relation to congenital induration of the sterno-mastoid, Mikulicz fully admits that one condition frequently follows the other, but considers that the term "hæmatoma of the sterno-mastoid" is utterly incorrect, the existence of a hæmatoma being a mere fable, with no anatomical evidence in its favour. In all cases of this affection which have been examined microscopically, fibro-cicatricial tissue has been alone found. Tearing or stretching of the fibres of the muscle, either at birth or subsequently, may perhaps be the actual cause of the onset of the process, and he suggests that this occurs partly from the extension and rotation of the neck always associated with the natural act of parturition, and partly from pressure of the neck against the under-surface of the symphysis. Moreover, it more frequently follows head presentations than pelvic, in the proportion of 96:3. The fact that every neck is occasionally met with at birth with well-marked sclerosing changes in the muscles seems, however, to indicate that the pathological process may originate idiopathically, quite apart from injuries, unless we can suppose that such are inflicted within the uterus.

Lorenz strongly objects to the treatment of torticollis by extirpation of the sterno-mastoid, basing his opinion partly on the cosmetic deformity produced by the proceeding, but mainly on the fact that such an operation can in no ways remedy the spinal curvatures, which he considers such an essential item in the more serious cases of the deformity. Complete removal of the muscle may remedy the lateral displacement of the head more completely than either open or subcutaneous division of the muscle; but the tendency to relapse persists owing to the contraction of the fibro-cicatricial material which occupies the site of the removed sterno-mastoid; whilst after-treatment by massage and manipulation is always needed. The plan recommended by Lorenz consists in a forcible reduction of the cervical scoliosis by gradual lateral pressure, so as to mould the bodies of the affected vertebræ into shape. This is conducted under an anæsthetic after the tenotomy or myotomy has been completed. The head is grasped by the hands of the operator and, by the use

of carefully regulated force, displaced until it rests on the shoulder of the side which formerly constituted the convexity of the cervical curve. Time and patience must be used in order to accomplish this, but in most young subjects it can be successfully completed in half an hour. The head and neck are then fixed in a suitable mechanical appliance, and active movements allowed after a time. Care must be taken that in this proceeding the trachea is not unduly compressed.

OBSTETRICS.

A. Symphysiotomy.—By M. PORAK (*Journal de Médecine de Paris*, Nos. 1, 2, 3, 4 and 5, vol. vii., 1895).

B. A case of symphysiotomy; death.—By A. J. McDONNELL, M.B., M.Ch. (*Australasian Medical Gazette*, Jan., 1895).

C. Symphysiotomy.—By G. P. SYLVESTER, M.D. (*Canadian Practitioner*, Feb., 1895).

D. Symphysiotomy in a tenement house.—By HERMAN L. COLLYER, M.D. (*American Journal of Obstetrics*, March, 1895).

E. Symphysiotomy with a successful case.—By DR. W. WINTERBERG (*Medical News*, Jan. 12th, 1895).

F. Symphysiotomy.—By JAMES M. JACKSON, M.D. (*Boston Medical and Surgical Journal*, Feb. 21st, 1895).

G. Vaginal hysterectomy and oophorectomy after symphysiotomy.—By HENRY S. GARRIGUES, M.D. (*Medical Record*, Feb. 23rd, 1895).

H. Symphysiotomy in a case of rickety contraction of the pelvis: retropubic thrombus.—By DR. TISSIER (*Journal de Médecine de Paris*, No. 12, vol. vii., 1895).

I. A contribution to the study of symphysiotomy.—By DR. BAR (*Journal de Médecine de Paris*, No. 5, vol. vii., 1895).

Porak (A.) gives an admirable and detailed account of nine patients on whom he has performed the operation of symphysiotomy, and concludes his paper by dealing at length with the technique of the operation. Five of the patients were primiparæ, and four were multiparæ. In the majority of the cases the pelvis was flattened, but in some there was general contraction, and in one case the pelvis was kyphotic. The true conjugate varied from $2\frac{1}{4}$ to $3\frac{1}{4}$ inches.

Two of the mothers died, though in only one of the cases was the death directly attributable to the operation. The other fatal case was due to peritonitis following a tear high up on the posterior wall of the cervix, which communicated with the peritoneal cavity, and had been caused by the frequent application of forceps prior to symphysiotomy being performed. Six of the nine children left the hospital alive.

Before commencing the operation, Porak advises the operator to make sure that the pubic bones are movable, because in cases where the symphysis is ossified the sacro-iliac joints are nearly always immobile, and therefore division of the symphysis will be of no use. He recommends a semicircular incision 4 inches in length, parallel to the lower border of the pubes, and commencing just above the commissure of the labia majora. He claims that with this incision healing by first intention is more certainly obtained, and that hæmorrhage is more readily controlled. The central part of this incision, which is 4 inches in length, is opposite the middle of the pubic symphysis. The lower flap is dissected downwards, keeping close to the bone, and all the structures attached to the lower border of the pubic arch are separated. Some hæmorrhage occurs from the venous plexus in connection with the corpora cavernosa of the clitoris, but this is easily checked by pressure with cotton-wool tampons, as the wound is still superficial, and possesses a resistant base. The symphysis is divided from below upwards with a bistoury guided by the finger, and no further bleeding follows the separation of the symphysis. When, however, a vertical incision is employed and the symphysis is divided from above downwards, free bleeding sometimes follows the separation of the pubic bones, and this is due to the corpora cavernosa being torn at the moment of separation. Porak points out that with a deep wound and no firm base against which to apply pressure, it is often difficult to check the bleeding. During extraction of the head the anterior vaginal wall may be extensively torn; and this constitutes a serious danger, especially in primiparæ. This accident is occasionally associated with free hæmorrhage, and the tear is generally situated to one or other side of the urethra and bladder. A tear of this kind occurred in one of Porak's cases. The patient was a young primipara with a rickety pelvis, the true conjugate being not quite 3 inches. The vulval opening was narrow and the perineum tense, and the pubic bones separated widely. The danger of laceration was recognised, and traction was made with great care; but a deep laceration of soft parts to the right of the urethra occurred, so that a communication was formed between the vagina and the operation wound. The huge wound thus formed was sutured as far as possible, but the woman succumbed seven days later from septic inflammation of the retropubic cellular tissue. It was after his experience with this case that Porak began to use the semicircular instead of the vertical incision. No troubles of locomotion were observed in any of the seven cases that recovered.

Dr. McDonnell (ref. B) records a case of symphysiotomy which was followed by the death of the patient. The patient was a multipara in labour with her fifth child. The pelvis was contracted, and forceps failed to draw the child's head into the brim. The length of the true conjugate is not stated, but serious difficulty had been experienced at her previous confinements. Symphysiotomy was performed, a vertical incision being employed. There was free hæmorrhage both before and after the division of the symphysis, and the patient was in a very weak state when put back to bed. She never rallied properly, and died thirty-six hours later from exhaustion. The child was born alive, but died twenty-four hours after its delivery.

Dr. Sylvester in his paper (ref. C) discusses the operation and describes a successful case. The true conjugate was $2\frac{3}{4}$ inches. The operation presented no special features of interest. A strong bandage 6 inches wide was applied around the hips before the operation was begun, to prevent too great a separation of the pubic bones. After the operation the pelvis was fixed with adhesive plaster and a strong cotton bandage; and at the end of the third week this was replaced by a plaster-of-Paris support around the pelvis, extending from the great trochanter to an inch or so above the brim of the pelvis. The patient was then allowed to get about.

Two successful cases of symphysiotomy performed in the patients' own house are recorded.

In the first of these two cases the operation was performed by Dr. Herman L. Collyer (ref. D). The woman had a pelvis with a conjugate of 3 inches, and her first child had been delivered by craniotomy. Shortly before full term an anæsthetic was administered, the cervix dilated manually, and symphysiotomy performed in the patient's own lodgings. The child, which weighed nine pounds, was delivered by version. The mother made a good recovery; but no mention is made as to whether the child survived.

The second case was operated on by Dr. W. Winterberg, of San Francisco (ref. E). The head had descended deeply, but, owing to the contraction of the pelvic outlet, it was found to be impossible to apply forceps. Symphysiotomy was performed with the aid of one assistant, and the child extracted alive. Some cystitis developed; but apart from this the patient made a good recovery, the power of locomotion being unimpaired.

Dr. Jackson, of Boston (ref. F), criticises the operation, and points out its various dangers. He considers that delivery after symphysiotomy is usually easy, but that at this stage there is serious risk of tearing the anterior vaginal so as

to form a communication with the operation wound; and when this occurs there is a marked liability to septic infection. The case described by Porak bears out this statement. Excessive stretching of the sacro-iliac joints is another source of danger; and he quotes thirty-three cases from the experience of others, in nine of whom there was disturbed locomotion resulting from the operation. There is the further drawback of a tedious convalescence, as the patient has to lie in bed for at least three weeks, and is unable to do hard work for a period varying between six and twelve months. Until assured of better results, he holds that the operation is not a success.

Dr. Garrigues (ref. G) relates a curious sequel to a case of symphysiotomy. The patient returned two months after the operation with a markedly waddling gait, and pain referred to the three pelvic joints. No mobility of the symphysis could be made out, but on vaginal examination a tumour the size of two fists was felt behind the uterus. An exploratory incision was made in the posterior vault of the vagina. The left ovary was found enlarged by numerous small cysts to five or six times its natural size; and the right one was the size of a duck's egg from the presence of a dermoid cyst. Both the appendages were removed, and then the uterus was excised, because the patient was suffering from a cystocele. The woman made a good recovery and lost all her pain and regained her normal gait.

Dr. Tissier (ref. H) relates a case where a retropubic hæmatoma was discovered seventeen days after the performance of symphysiotomy. The swelling extended outwards and backwards from behind the pubes, and followed on each side the upper insertion of the levator ani muscle, reaching as far as the ischial spines. Three weeks later the swelling had quite disappeared. This patient also presented at the end of the seventeenth day considerable separation and mobility of the pubic bones, so that walking was somewhat interfered with. There was also some prolapse of the vaginal and rectal walls; but, inasmuch as the patient had borne six children, it was not easy to say whether this was directly due to the operation. Porak relates that in one of his a hæmatoma formed in front of the pubes the size of a hen's egg, and by the side of one of the sutures some blood-stained serum escaped. It disappeared, however, without suppurating, and the wound healed by first intention.

Dr. Bar (ref. I) relates a successful case of symphysiotomy in which, as in the case of Dr. Tissier, there was prolapse of the anterior vaginal after the operation. In this case also there was considerable mobility of the pubic bones. He con-

siders that the prolapse was due to parts supporting the lower third of the vagina having been detached during the operation.

Application of forceps in occipito-posterior cases.—**PROFESSOR S. TARNIER** (*Journal de Médecine de Paris*, vol. vii., No. 11).—He points out that spontaneous delivery may take place in one of two ways when the occiput is posterior: in one case the occiput undergoes a long rotation forwards so that an occipito-posterior is converted into an occipito-anterior case; in the other the occiput remains behind in the hollow of the sacrum, and if the perineum is yielding and the pains strong the head is delivered in this position, the posterior fontanelle being the first part of the child's head to be born. Supposing that the occiput does not rotate forwards and the head does not advance, an attempt should be made to rotate it forwards with the hand, and this can often be accomplished because the head still remains movable. If the occiput is to the right the left hand is introduced and the head seized, the thumb being placed behind the ear. The head is then rotated from right to left and from behind forwards, and the hand retained in position, because otherwise the occiput will again turn backwards owing to the fact that the shoulders have not rotated forwards with the head. The right blade of the forceps should now be introduced, and after being placed in position is entrusted to an assistant to hold. By this means when the left hand is withdrawn the head is still retained in place. The left blade is then applied and the blades locked. On making traction further rotation takes place as the head descends. When the occiput cannot be rotated forwards by the hand he recommends the following plan. The blades of the forceps are applied in one of the oblique diameters of the pelvis; so that if the occiput looks to the right sacro-iliac synchondrosis the left blade is opposite the left sacro-iliac synchondrosis and the right one opposite the right obturator foramen. When the forceps are in position the first thing to do is to flex the head, and this can often be accomplished by pulling on the traction-rods. If in spite of this traction the posterior fontanelle still remains high up and difficult to reach, the handles of the forceps should be carried forwards at the same time that traction is maintained on the cross-bar connected with the rods. The head will thus be flexed, and the next thing to do is to aid rotation. This can be done by making the handles of the forceps describe a wide arc of a circle while traction is being made. The occiput having thus been rotated forwards, it will be seen that the concavity of the forceps now looks towards the hollow of the sacrum. If the perineum is resistant it is best either to take off the forceps

and reapply them, or to allow the head to be expelled by the uterine pains after the blades are removed. If the pains are inefficient a manœuvre described by Ritgen may be employed, which consists in introducing a finger into the rectum and pressing on the forehead. In some cases, according to Tarnier, it is not necessary to remove the forceps, and by carrying the traction-rods upwards and forwards the danger of cutting the perineum with the points of the forceps is obviated. He concludes by alluding to the fact that the manœuvre which is in France associated with the name of Ritgen was really first described by Smellie.

OPHTHALMOLOGY.

Optic neuritis of gonorrhœal origin (*Névrite Optique d'origine blennorrhagique*).—PROFESSOR PANAS (*La Presse Médicale*, 23 Février, 1895).—I show you a waiter aged twenty-six, tall and robust, but anæmic, who presents serious ocular trouble, at the same time being the subject of a chronic gonorrhœa which manifests itself in various ways. A year ago his sight was good; he has never had syphilis, rheumatism, or an eruptive fever. For several years he has been affected with chronic gonorrhœa, which from time to time is subject to relapses of varying duration. For about a year he has suffered for several days every month from violent pains in the lumbar and sacral regions, which have woke him up at night, and obliged him to keep his bed, and which radiate towards the pelvis and lower extremities. In the legs they shoot along the course of the sciatic and crural nerves. There are pains in connection with the bladder, frequent desire to pass water, and painful micturition accompanied by spasm at the neck of the bladder. The urine is thick and ammoniacal. Between the attacks the urine is clear and micturition regular. There is marked genital depression, but no motor, sensory, nor trophic troubles. We must localise the origin of these disorders in the lower part of the spinal cord. He can barely count fingers at 1·5 metre with the right eye. The visual field is concentrically contracted, and there is an absolute scotoma at the lower and inner part. The colour sense is as perfect as the deficient visual acuity will allow. The pupil reacts normally, and tension is normal. There is no photopsia, no diplopia. Ophthalmoscopic examination by the indirect method shows a typical simple papillitis—a blurred disc with soft, badly defined margins, and capillary vessels distributed over it; the retinal veins turgid and tortuous, the arteries small and filiform. By the direct method the disc appears slightly swollen, and there is a delicate cloudiness in the vitreous. The vision

of the left eye is normal, but there is a similar condition to that in the right, although to a much less degree, there being but slight cloudiness of the disc, with turgescence of the veins. With regard to the seat of the lesion it is not intracranial, because the pupil-reflex is preserved without myosis, mydriasis, or inequality; it is not a meningitic lesion at the base, for there has been no fever, no headaches, no bilateral amblyopia, nor ocular paralyses. We must therefore look for the origin in the spinal cord. Five years ago I observed the first case of optic neuritis of gonorrhœal origin, and have published it in full in *La Semaine Médicale* (Dec. 30th, 1890). It resembled the present case in regard to the ocular condition, although the lesion was quite different, being a spreading basal meningitis, with serous exudation, affecting the optic nerves. In the present case the optic nerve is alone affected, as in descending or peripheral neuritis. The toxic agent cannot be alcohol or tobacco because there is not bilateral amblyopia, dyschromatopsia, nor a central scotoma. The primary cause here is the gonococcus, and the gonococcal infection is localised independently in the right optic nerve, and in the lower end of the spinal cord and the sciatic nerves. Must we admit a microbic metastasis by the vessels in the optic nerve, or are we to suppose that the gonococcus acts in the eye by the toxine which it produces? Until we have more ample evidence the last hypothesis seems the most acceptable, all bacteriological researches on the interior of the eye having been negative, although we must remember that cultivations of the gonococcus are at present difficult to obtain. We do not yet know the efficient treatment against gonococcal infection, so we employ the therapeutic measures used in papillitis in general. I have accordingly prescribed potassii iodidi gr. xxx per diem, and in about a fortnight shall carry out my treatment with biniodide oil.

Action of the hydrochlorate of scopolamine on the eye.

THOMAS R. POOLEY (*The Canada Lancet*, January, 1895).—The strength used was a one-fifth per cent. solution. It was found to be without local anæsthetic properties. As a mydriatic to determine the anomalies of refraction the instillations were made in some cases while the patient was in the hospital, at intervals of fifteen minutes. Mydriasis was produced in from ten to fifteen minutes, and complete cycloplegia in from three-quarters of an hour to an hour—i.e., after three or four instillations. The duration of the mydriasis and cycloplegia was from twenty-four to forty-eight hours. In several cases a notable diminution in the visual acuteness, after the full effect of the drug on accommodation, was noted;

so that the correction of the ametropia did not bring the vision up to normal. In three cases where the patients had bought the drug themselves and used it at home, very marked toxic effects occurred. One case was that of a girl of about thirteen years, in whom there was afterwards discovered a history of convalescence from nephritis following diphtheria. She came to the clinic, having used the one-fifth per cent. solution six times in each eye. Her pupils were widely dilated, the heart's action was very irregular and rapid (120 to 130 times a minute), she had a staggering gait which did not allow her to walk without assistance, and complained of needles under her feet and dryness of the throat. The muscles of the face and lips were constantly working, but there was no erythema. She was treated with brandy, but only fully recovered two days after using the drug, being delirious at night. The other two cases were in healthy adult females. The symptoms were the same, but less in degree. In one they passed off in twenty-four hours; in the other in forty-eight hours. Scopolamine was used with beneficial effect in several cases of phlyctenular keratitis, in one case of traumatic suppurative keratitis, and in one case of kerato-iritis. The conclusions were: That as a mydriatic and cycloplegic in examining the anomalies of refraction its action is more complete than that of homatropine, and of about the same duration, but that it is open to the objection that it produces toxic effects oftener than homatropine; that it is better than atropine, because its effects pass off sooner; that the temporary amblyopia it induces is not of much moment; and that in cases of short attacks of inflammation of the cornea it is of special value.

OTOLOGY.

Auditory disturbances in tabes dorsalis (*Les troubles auditifs du tabes*).—DR. F. J. COLLET (*La Presse Médicale*, Jan. 12th, 1895).—MM. Marie and Walton have come to the conclusion that these disturbances are due to changes in the middle ear, and the loss of equilibrium to a lesion of the branches distributed to the semicircular canals while the cochlear branches escaped. Gellé has shown that the vertigo of Menière is met with in lesions of the middle ear alone. Strümpell has demonstrated a macroscopic atrophy of the optic and auditory nerves, Oppenheim and Siemerling a degeneration in the columns of Goll in the bulb, and a general ependymitis in the floor of the fourth ventricle, with an atrophy of the greater number of the fibres ascending from the nucleus of the auditory to the nucleus of the fifth nerve, which were transformed to a wavy

connective tissue rich in nuclei. Haberman found that in the labyrinth the nerve tissue of the cochlea had disappeared with the exception of a few fibres, and was replaced by a hyaline connective tissue containing corpora amylacea, while the vestibular nerve was less degenerated. In sections shown by the author there was manifest shrinking of the root bundles of the auditory nerve, and atrophy of the fibres of the calamus (according to Pierret, the roots of the auditory nerve were easily followed in the floor of the fourth ventricle). These observations show an anatomical basis for the auditory troubles—viz., atrophy of the nucleus and nerve trunk; they are interesting as affecting the ganglion cells on the nerve, the labyrinth, and resemble histologically the other nerve lesions of tabes. In the middle ear the lesions are a sclerosis of the inner wall and the membrana tympani, except its centre. Their effect is shown in the alteration of the hearing, which may vary from a slight difficulty to absolute deafness. Most frequently there are subjective sounds, which may be very intense, ruling the whole symptomatology of the ear affection. Their principal bearing is on the hallucinations of the patient, if insane, the delirium originating in the sensations and explaining the delusion of persecution. The pathology is clear in an actual nerve lesion, otherwise they may be coincident, not consequent, either due to the patient's age or of an independent syphilitic origin. The affection proper of the middle ear may possibly arise through the agency of the trophic nerve of the cavity which comes from the fifth; to this hypothesis the coexistence in tabetics of lesions of the ear and sensory and trophic changes in the face lends support. To sum up: the auditory disturbances may arise either in the sensory or the trophic nerve of the ear; the sclerosis of the middle ear, as well as the lesion in the fifth, which may possibly give rise to it, the affection of the auditory nerve, and the tabes, may be a parasymphilitic affection.

PATHOLOGY.

On lymphadenoma and its relation to hyperplasia of the thymus (*Ueber die Adenia Simplex und deren Beziehungen zur Thymushyperplasie*).—PROF. V. BRIGIDI and DR. E. PICCOLI (*Beiträge zur pathol. Anat. und zur allg. Pathol.*, Vol. xvi., Part 3, p. 388, 1894).—The designations by which progressive non-tubercular enlargement of lymphoid tissue in the body are indicated are very various—Hodgkin's disease, adenia (Trousseau), lymphosarcoma (Virchow), pseudo-leukæmia (Cohnheim), lymphoma malignum (Billroth). In England, it may be added, we call the affection Hodgkin's

disease when the lymphatic glands are involved in various parts of the body, and lymphadenoma or lymphosarcoma when the growth is more or less localised in one region. This variety of terminology points to defective pathological knowledge. The authors trace this to the long duration of the disease, to gaps in our knowledge of its different stages, and especially to the uncertainty as to whether we have to deal with a hyperplastic or a neoplastic process. Further, the distinction between this disease and leucocythæmia is not as yet fully established. The case to which the authors direct attention was that of a female cook aged twenty-nine. She dated her illness to a "chill," after which she had a dry cough, shiverings and night-sweats, pain in the left shoulder and swelling of the left axillary and supraclavicular glands, progressive weakness, shortness of breath, ending in orthopnœa, and dropsy of the lower limbs supervened. On the first examination it was noticed that the tumours in the axilla of the left side were associated with enlargement of the nipple, which was tender to touch. Percussion over the left side of the chest, especially near the sternum, caused pain, and vocal fremitus was absent in front and diminished in the back, and dullness from the apex to the seventh rib on this side. The blood showed no increase in the relative number of white corpuscles. Death was due to failure of respiration and circulation. The autopsy showed a large intrathoracic growth in the place of the thymus gland, as well as enlargement of the bronchial and mediastinal glands. In the abdomen the mesenteric, lumbar, inguinal, and other glands were enlarged and hard. In the subcutaneous tissue of the neck, in the sterno-mastoid and other muscles of the neck, in the upper cervical sympathetic ganglion, and in the intima of the left internal jugular vein, were hard, white nodules of growth. Examined histologically, portions of the growth from different parts of the body showed similar characters. The infiltration consisted of two different kinds of cells—first, small round cells resembling lymphocytes; and, secondly, larger round multinucleated cells, which were either isolated or arranged in small clusters. Both kinds of cells were supported by wide-meshed and scanty strands of connective tissue, which contained capillaries surrounded by small lymphoid cells. No trace of the original structure of the thymus could be found. In the lymphatic glands all distinction between cortex and medulla was lost, and the lymph sinuses were blocked by cells, many of which showed irregular mitoses. Some of the cells contained spheroidal homogeneous bodies from 2 to 5 m. in diameter. Collections of these bodies were also seen in spaces surrounded by cells. The

nature of the disease is then discussed. According to Virchow and Cornil, histological characters alone cannot decide whether a growth is lymphosarcoma or not. Reviewing their observations, the authors found that the morbid changes in their case were produced by some agency which caused multiplication of the normal elements of the tissue with subsequent metaplasia. The idea of a neoplastic process was quite negated by the definite structure of the morbid tissue. Therefore they use the term "adenia" rather than "malignant lymphoma." They consider that soft lymphadenoma forms a connecting link between lymphosarcoma and leucocythæmia. The paper ends with reference to the bacteriology of the subject. The authors found in cultures from some of the lesions a coccus closely allied to, but not identical with, *staphylococcus aureus*. The cultures injected subcutaneously in a guinea-pig caused chronic inflammatory changes in a wide area around the seat of inoculation, but nothing marked in the internal organs. The paper is of great interest and utility in showing the unsettled state of the pathology of malignant growths. Ribbert recently pointed out that the earliest changes in cancer were of inflammatory nature, and with the present paper before us it may well be asked whether the ever-shifting line of division between inflammatory and neoplastic lesions is not about to be redrawn in such a way that cancer and sarcoma are included with the inflammatory lesions.

Pharmaceutical Novelties.

IN the "Practical Notes" of last month's number we referred briefly to the history and development of the employment of animal extracts as therapeutic remedies. We have just received from the well-known house of Messrs. Burroughs, Wellcome and Co. two promising additions to the pharmacopœia of animal products.

Residuum Rubrum Tabloids.—These are dispensed in the well-known compressed form, and consist of hæmatin extracted from bullock's blood, which is said to contain a large percentage of an organic combination with iron. Neither in appearance, colour, smell, nor taste does this preparation give any indication of its origin. Having wisely given it a name unsuggestive of its source, this preparation can be administered without repugnance to the most refined and fastidious. We found that the tabloids can easily be crushed, and that when simply dropped entire into a wineglass of water they break up within half a minute and diffuse a chocolate-coloured powder throughout the liquid. This is practically tasteless, and, being without odour, can be swallowed by any who have a difficulty in swallowing compressed drugs. The moderate price of 1s. per bottle of 100 easily places a promising remedy within reach of any who would make a trial of this readily absorbed, non-astringent, and promising hæmatinic.

Thymus Gland Tabloids.—Each of these contains 5 grains of fresh gland, and consist chiefly of nuclein—recently commended strongly by Prof. Vaughan and other American observers—and nucleo-albumin. They are said to increase the number of leucocytes in the blood, and are recommended in all lymphatic conditions and some forms of pernicious anæmia. We find them readily friable, and not at all unpalatable.

Dried Sulphate of Iron Tabloids.—Each of these contains 3 grains of ferri sulphas exsicc. Having well stood the test of long experience, this preparation of iron is still the favourite one of many practitioners.

From the same firm we have received samples of their well-known zymine and compound zymine tabloids, but with the addition of a coating of keratin. This latter protects the digestive ferment during its passage through the acid gastric secretion, but on meeting with the alkaline secretion of the duodenum and intestinal canal the keratin is dissolved and liberates the pancreatic extract. Both preparations are well worthy of use in certain forms of intestinal indigestion.

Potassiumate of zinc tabloids, each containing $\frac{1}{2}$ grain, are a convenient and portable form for making a powerfully astringent, antiseptic, and germicidal solution. It is a convenient and effective remedy for gleet.

Another ferruginous preparation has been sent us by Messrs. Domeier and Co., of 13, St. Mary-at-Hill. **Ferratin**, as it is termed, is another illustration of the present trend of pharmacological research, this drug being a peculiar organic iron compound isolated from the pig's liver. It has also been produced synthetically, and the artificial compound is said to be identical in its behaviour with the natural one. Favourable articles on this remedy appeared in *THE PRACTITIONER* for December, 1893, and August, 1894, and further observations have been published by Drs. Jaquet and Kündig, of Basle, and Prof. Schmiedeberg, of Strassburg. Prof. von Ziemssen (*Münch. med. Woch.*, Dec. 11, 1894) found it to be a good iron preparation, easily taken and digested. It is dispensed as a reddish-brown powder, odourless and tasteless, and easily taken mixed with food or stirred in a little milk. The dose for adults is 15 to 30 grains.

Lactophenin—also brought to our notice by Messrs. Domeier and Co.—is intended to be prescribed in the conditions where phenacetin and antipyrin have been recommended. It is an antipyretic and anti-neuralgic, and has been favourably reported on by Prof. von Jaksch, of Prague. The dose is the same as that of phenacetin.

Practical Notes.

GASTRIC hyperacidity is characterised frequently by some distinctive symptoms which render its diagnosis relatively easy. The most regular one is the punctuality with which epigastric discomfort and general malaise set in about one and a half to two hours after a meal. Thus, for instance, men who are overworking themselves in business, and who lunch unwisely or hurriedly, are apt to complain of their "four o'clock dyspepsia." The other regular hours are about eleven in the morning and—for those who dine late—towards midnight. The cause of this is exaggerated acid secretion in the stomach. Owing to this, digestion takes place quickly, the stomach is soon empty, but the secretion continues, irritates the mucous surface, and produces the discomfort. Such patients generally feel most comfortable just after meals, and state that they always feel relieved by eating.

THESE cases should be treated with a diet of a solid nature, made up of articles which require the prolonged action of the gastric juice. A strictly milk or similar light diet is a mistake. Butcher's meat should be given freely, fresh game, poultry, and eggs; but high game, salads, spiced meats, and anything which may give rise to ptomaines or increase acidity should be prohibited. Green vegetables should be preferred to farinaceous ones. Milk should be given along with this diet, meals should be punctual, and light repasts—or *gouters* as they are well called in France—should be interpolated about eleven in the morning and four in the afternoon. Red wine, beer, and spirits are forbidden, and their place taken by well-diluted white wine, or, better still, by hot water or very weak hot tea.

As regards medicinal treatment, Dr. Lemoine (*Nord Médical*, Feb. 1, 1895) strongly condemns the giving of small doses of alkalis. He holds that it has been demonstrated that 10 or 15 grains of bicarbonate of soda, if given half an hour before a meal, considerably increase the secretion of hydrochloric acid. Such treatment simply aggravates the condition under consideration and leads to mistrust in alkaline remedies. He advises large doses to be administered at the

moment that digestion is supposed to finish, shortly before the usual hour for discomfort to set in. He gives for each dose—

R Sodæ Bicarbonat., grs. xl.
Lithiæ Carb., grs. iii.

in a cachet. This is swallowed with half a tumbler of tepid Vichy water about 11 a.m., 3 p.m., 6 p.m., and 10 p.m. In acute cases as much as half an ounce of alkali may be given in the twenty-four hours without any inconvenience.

If there is any diarrhœa, such as not infrequently takes place after meals, the contents of each cachet are altered as follows:—

R Sodæ Bicarbonat., grs. xl.
Calcii Phosphat., grs. xv.
Cretæ Preparatæ, grs. x.

And if the diarrhœa is fetid, internal disinfectants should be added:—

R Sodæ Bicarbonat., grs. xl.
Benzo-naphthol, grs. x.
Bismuth. Salicylat., grs. viij.
Pulv. Opii, gr. $\frac{1}{4}$.

Constipation may also be observed in these cases, and magnesia is then especially indicated on account of its alkalinity:—

R Calcii Carbonat., grs. xv.
Magnes. Carb., grs. xv.

in a cachet. Two of these to be taken alternately with two packets of bicarbonate of soda.

THE following is a convenient form of alkali, and can be dispensed without the use of cachets:—

R Sodæ Bicarb., \mathfrak{zss} .
Bismuth. Carb., \mathfrak{zss} .
Pulv. Cinnamom. Co., \mathfrak{zij} .
Ess. Ment. Pip., \mathfrak{zj} .
Magnes. Carb. Pond., \mathfrak{zvj} .

M. ft. pulv. S. A teaspoonful when required after meals, stirred in water.

A TYPICAL alkaline mixture for such cases is:—

R Sodæ Bicarb., \mathfrak{zij} .
Tinct. Rhæi, \mathfrak{ziv} .
Tinct. Zingiberis, \mathfrak{ziii} .
Inf. Gentian. Co. ad \mathfrak{zviij} .

M. ft. mist. S. One tablespoonful in water three times a day, about one hour after meals.

BICARBONATE OF SODIUM IN GASTRIC DISEASES.—Professor Dujardin-Beaumetz has studied the effect of this agent upon the gastric secretion, without reference to its effect upon the motility of the stomach, upon gastric and intestinal fermentation, or its analgesic properties. His conclusions, based upon experimental as well as clinical observation, explain in a logical manner its paradoxical but undeniable action upon two opposite conditions of the stomach. According to him, the drug acts upon the gastric secretion first by exciting and then by depressing it. The excitation is due to the immediate effect upon the gastric glands, while the depressions seem to be due to its general effect, or, in more exact terms, to the alkalisation of the blood. In practice, moderate doses must be used when it is desired to obtain the excitant action, given before meals, and for a short period only. To obtain the sedative effect, large doses, before or during meals, should be continued for some time. The exact size of the dose cannot be absolutely specified, as this depends upon the state of the gastric secretion, the susceptibility of the stomach to bicarbonate of sodium being in inverse ratio to the quantity of hydrochloric acid secreted. These conclusions apply also to Vichy and other waters containing bicarbonate of sodium.

THE following prescription has been used in the Mandoli Regimental Hospital at Bhurtpore in many cases of acute dysentery. It is said never to fail:—

R Quiniae Sulph., grs. ij.
 Pulv. Ipecac. Rad., grs. v.
 Ammon. Chlorid., grs. x.
 Tinct. Opii, ℥xij.
 Aquæ ad ʒj.

To be given every four hours.

A periodontitis—or, in simple terms, a gumboil—can sometimes be aborted by painting the inflamed gum several times a day with this mixture:—

R Tinct. Iodi, ʒj.
 Tinct. Aconiti, ʒj.
 Chloroform, ℥xv.
 Tinct. Benzoin, ℥xv.

Ft. Pig.

ANY hæmorrhage after operations on the teeth can be controlled by the following gargle recommended by Viau:—

R Acid. Tannic., ʒss.
 Chloroform, ʒj.
 Tinct. Ratanhiæ, ʒss.
 Spirit. Menth. Pip., ʒss.
 Aquæ ad ʒxvj.

M. ft. Gargarisma.

FOR the gingivitis of smokers a teaspoonful of the following in half a tumbler of tepid water should be used as a mouth-wash:—

R Salol, grs. xv.
 Tinct. Cachou., ʒj.
 Spirit. Menth. Pip. ad ʒiv.

M. ft. Lotio.

THE following has been suggested as an emulsion of castor oil which might be added to the Pharmacopœia:—

R Olei Ricini, ʒj.
 Gum Acaciæ, ʒss.
 Elixir Saccharin., mxx.
 Olei Amygdalæ, mij.
 Olei Carui, mij.
 Aq. Destill. ad ʒij.

M. Dissolve the gum in the water, add the oil gradually, and lastly the flavouring,

So good an authority as J. Lewis Smith has recently spoken against the practice of lancing infants' gums. In a paper read before the New York County Medical Association (*Medical Record*) he said the belief still prevails to a wide extent that the cutting of teeth is a common cause, not only of painful gums and poor appetite, but also of entero-colitis and other serious maladies, which are often allowed to run along until beyond the skill of the physician. Our ancestors in the profession were to blame for the widespread impression that much disease is due to dentition, since at one time it was a common custom to incise the gums. As to lancing the gums, he thought one could get along as well without it. If the gums were red and irritated, there must be some other condition to account for the irritation. He did not think the physiological process of normal dentition was to be interfered with any more than any other physiological process.

IN the chronic gastritis of alcoholism, Zdekauer prescribes:—

R Aquæ Chlōri. ʒij.
Syrup. Simpl. ʒij.
Decocti Althææ ad ʒvj.

S. One tablespoonful every two or three hours.

THE swelling and pain of mumps are said to have been rapidly relieved by inunctions with:—

R Ichthyol.
Lanolin āā. M.

LEMON-JUICE has been recommended as a hæmostatic in the intestinal bleeding of typhoid fever, in hæmatemesis, and in a 1—4 mixture with water for epistaxis.

WHEN a limb is crushed, and surgical treatment has for some reason to be deferred, the following ointment is recommended for “embalming” the injured part. It should be spread on aseptic gauze and covered with cotton-wool:—

R Salol, ʒijj
Resorein, ʒijj.
Antipyrin, ʒijj.
Acid. Boric., ʒv.
Iodoform, grs. xv.
Vaselini ad ʒvj.

As far back as 1880 Glax alluded to the favourable effect from strict limitation in ingestion of fluids in the treatment of chronic heart disease. Four years later Oertel's book on the therapy of disturbances of the circulation appeared, in which also deprivation of fluids was maintained. In two very instructive works on clinical medicine, Glax has summed up his experiences of many years in these two statements:—The restriction of the ingestion of fluids is one of the most powerful measures in the treatment of chronic heart diseases, and alone is often sufficient to bring about compensation. In many cases, in which the strength of the heart is already compromised, its efficiency is renewed as soon as the ingested fluids are regulated to correspond with the excretions.—*Centralblatt für innere Medicin.*

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Original Communications.

MURPHY'S BUTTON.

By FREDERICK TREVES, F.R.C.S.,

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FOR a century and more surgery has been busy with means for uniting peritoneal surfaces, and especially for suturing the hollow viscera. Even in the days when abdominal surgery was "without form and void" there was a constant, restless activity in the matter of intestinal sutures; and the monotony of repeated failure was occasionally disturbed by some revolutionary method which was to bring fortune at last.

It was as long ago as 1780 that Ramdohr first successfully united the human bowel by suture after complete division. It was in 1812 that Benjamin Travers published the results of his acute and masterly "Enquiry into the Processes of Nature in repairing Injuries of the Intestine." Since these times surgical literature has been oppressed by countless methods of uniting bowel, and by an interminable variety of intestinal stitch. These show that imagery and fatuous invention are not necessarily foreign to the surgical mind.

Many of the published methods are ingenious; the majority are bad; a large proportion are merely curious. At the present day the simple suture of Lembert remains as almost the sole desirable survivor.

With the development of abdominal surgery the need of means for the secure and speedy union of hollow viscera

became more pressing. Suturing was found to be slow and tedious, and liable to failure. A large proportion of the patients in need of these forms of abdominal operation were not able to stand extended procedures. Attention was of necessity directed to mechanical means of simplifying the suture or of supplanting it. In the search of such means surgical invention has run riot; and the hybrid products of that invention can scarcely be exceeded for variety and strangeness.

First there came cylinders made of the trachea of an animal, or of oiled cardboard, or of decalcified bone, or of dried gut. With these have to be ranked divers plugs made of dough, tallow, or isinglass. The bone plates of Dr. Senn appeared to offer a partial solution of the problem; but they did not meet the actual need, nor stem the torrent of invention. The bewildered surgical world has had presented to it discs of turnip, plates of wood, rings of catgut, bobbins of nearly every known material, clamps without stint, and other apparatus which may be conveniently classed as miscellaneous. Each machine was brought forward as the last effort in the direction of human perfection, and to each was attached the certifying label of a successful case. None of these appliances, however, satisfied the practical surgeon.

Among the later productions was a brazen "button" of strange appearance, invented by Dr. Murphy of Chicago. Of all the appliances brought before the notice of an eager but confused profession, this appeared to be one of the most improbable. It sought to effect an opening between one hollow viscus and another by producing gangrene from pressure. The whole spirit of the machine seemed to be directly opposed to those principles which had become articles of the surgeon's creed. No approximating sutures were used; and, indeed, no orthodox ceremonial was observed. As time passed by, it became evident that this strange-looking instrument was not to be condemned because it was unorthodox, and that there was method in its apparent madness. Although Murphy's button may be merely the first step towards the operation of perfection, it has been already shown that better results have been obtained with it than with any other appliance employed up to the present time.

The two points of greatest value about the button are these: it is very readily applied, and its application involves the expenditure of but a few minutes. The one point against it is this: that it may occasionally be retained in the upper of the two viscera between which a communication has been established. The cicatrix produced by the button does not contract. The appliance is admirably adapted for effecting union after resection of intestine. Not a single case has been recorded in which the button caused obstruction; nor has the sloughing produced by the button been found to extend.

Dr. Murphy, in a recent paper (*Lancet*, April 27, 1895), gives an analysis of the reported cases treated by the button up to the present time.

It will be said that all successful cases are published, but that a like publicity is not accorded to all unsuccessful cases. This objection, however, applies to most abdominal operations, and has had to be overruled or ignored in estimating the risks of all recently introduced measures.

As the record stands, no procedure yet made known has been attended with so great a degree of success as has the measure now under discussion.

Gastro-enterostomy for malignant disease shows twenty-seven cases, with nine deaths. Four of the patients died of exhaustion, two from imperfect operation, and three from peritonitis due to infection at the time of the operation. Five deaths, therefore, out of the nine were due to preventable causes.

In the performance of cholecystenterostomy the button has been pre-eminently successful. Dr. Murphy's list deals with thirty-eight cases, with only one death. No other single method has shown such results.

It is, however, in the carrying out of intestinal approximation that the button has been of the greatest value, because the conditions dealt with by that measure have up to the present been among the least satisfactory in surgery.

The recorded examples include twelve cases of resection of gangrenous bowel in hernia, with two deaths; fourteen cases of resection in intestinal obstruction, with one death; and nine cases of resection for fecal fistula, with no death.

In all, forty-eight cases of resection for non-malignant conditions are referred to, and of these only three died.

Thirty cases of resection of intestine for malignant disease are given, with seven deaths.

In all these instances of resection the divided bowel is united end to end by means of the button.

It is evident that much may be expected from the button in excision of the rectum; and possibly in excision of the pylorus, should that measure assume a recognised position among the rational operations of surgery.

I might conclude this paper by detailing three illustrative cases which have recently occurred in my own practice.

Case 1.—Intestinal anastomosis for cancer of the colon.—The patient in this instance was a lady, aged fifty-one, who was under the care of Dr. Jollye, of Lorrimore Square. The operation was performed on January 28th, 1895. For some months previously the patient had been the subject of digestive disturbances, and had had increasing difficulty with her bowels.

For nearly four weeks before the operation her symptoms had become very distressing. There was almost constant colic, with distension of the abdomen and sickness, and on several occasions the manifestations were those of actual obstruction.

The patient was losing flesh and strength. The bowels scarcely responded to daily enemata, and aperients were no longer tolerated. The physical signs and symptoms pointed to a stricture low down in the colon of the left side. This was the diagnosis given by Dr. Jollye and myself at a consultation held a week before the operation.

On January 28th, assisted by Dr. Jollye, I opened the abdomen in the median line, and at once discovered an epitheliomatous stricture situated at the point of junction of the descending colon and the sigmoid flexure.

I established an anastomosis between the transverse colon and the sigmoid flexure, using the medium-sized button. The operation did not occupy more than fifteen minutes.

The patient's recovery was rapid and uneventful. The bowels acted on the sixth day, and the button was passed on

the eighth day. At the present date (May 14th) Dr. Jollye reports that the patient is "very well indeed." She has gained flesh, and enjoys her food more than she has for years. The epithelioma remains, but the patient has been spared the misery of a colotomy wound.

Case 2.—Gastro-enterostomy in a case of obstruction of the pylorus.—A man, aged fifty, was admitted into the London Hospital in January of the present year with symptoms of obstruction at the pylorus.

The gastric symptoms had been prominent for nine months. I operated upon the patient on January 26th. For seven days before the operation the patient had been troubled with almost incessant vomiting. He was greatly emaciated and very weak, and was in a most unfavourable condition for any operation.

It was at his urgent request that an attempt at relief was made.

On opening the abdomen I discovered a mass of malignant disease occupying the head of the pancreas and blocking up the pyloric end of the duodenum. The stomach and a coil of jejunum were brought into position, and a gastro-enterostomy carried out by means of Murphy's button. The time occupied by the operation, after the two viscera were brought into position, was eight minutes.

The patient was relieved by the operation, but never recovered from the profound state of exhaustion into which he had fallen. He survived two days. A *post-mortem* revealed the button still held securely in position. There was no peritonitis and no effusion at the site of the anastomosis, and the junction was perfectly watertight. It is safe to say that this patient could have survived no operation of any but brief duration. Had a gastro-enterostomy by suturing been attempted, I believe the patient would have died on the operating table.

Case 3.—Gastro-enterostomy for cancer of the pylorus.—The patient, a woman of forty-eight, was admitted into my wards on April 18th. She stated that she had had pain after food for fourteen years. For the last seven years she had had an attack of vomiting about once a week. Lately this vomiting

had become very copious. Hæmatemesis had been reported on two occasions—viz., six years ago and four weeks ago. The patient was emaciated, and the stomach was much dilated. She had latterly complained of almost constant pain in the abdomen. I opened the abdomen on April 19th and discovered the pylorus occupied by a carcinomatous mass about the size of a hen's egg. The commencement of the jejunum was brought into position, and a gastro-enterostomy carried out by means of Murphy's button. The operation was of the simplest possible character.

The patient's recovery was rapid and without complication. She has had no vomiting since the operation. On May 10th she was up and eating solid food, and expressed herself as feeling more comfortable than she had felt for many years.

ON THE MANAGEMENT OF THE PREGNANT, PARTURIENT, AND LYING-IN WOMAN SUFFERING FROM CARDIAC DISEASE.

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SINCE the publication of Macdonald's exhaustive treatise on this subject in 1878 several important papers, chiefly by foreign authorities, have been written, and are based on many accurate observations.

Unfortunately, it is quite patent that on many points much difference of opinion exists, and it is with the idea of sifting the evidence more recently brought forward, and judging of it from my own experience of these cases, that this contribution is made.

It will be perhaps advisable, first of all, to consider what our actual present knowledge is of the behaviour of the normal heart during the pregnant, parturient, and puerperal conditions.

The theory originated by Larcher, and supported by others of the French school, that hypertrophy of the left ventricle during pregnancy was *always* present, has, I think, not been proved, although in certain cases it undoubtedly exists.

In two cases in which I had an opportunity of observing the cardiac condition *post mortem* (ruptured uterus during labour, and suicide at seventh month of pregnancy) there was no evidence of hypertrophy of the left ventricle, although in both cases the weight of the organ itself was slightly above the average.

During *pregnancy* the work of the heart is augmented, owing to the larger quantity of blood and the increased resistance in its circulation. During the later months this task is added to, in consequence of the decreased power of expansion of the thorax and the compression of the large abdominal veins by the pregnant uterus. In spite of this additional work, a healthy heart is possessed of so much reserve force that hypertrophy is unnecessary.

During *labour* it is that the greatest stress is laid upon the heart's power. Apart from the psychical and reflex effects of the labour, we must remember what takes place during the bearing-down pains: (1) The blood pressure varies as a result of the contractions of the uterus, and the consequent narrowing of its vessels; (2) owing to the forced expiratory position of the thorax, the usual sucking up of the venous blood into the right heart does not take place regularly, and, as a consequence, more or less cyanosis of the face and fulness of the veins of the neck are noticed.

After the birth of the child the abdominal pressure sinks almost immediately, and, at the same time, a number of large vessels are very suddenly cut off from the general circulation by the uterine contraction. So far, all authorities are now agreed; but, as to the subsequent events, a divergence of opinion exists. The first theory, and the one I believe to be the true one, is that in consequence of the above sinking of abdominal pressure there is an overfilling of the right heart, requiring considerable expenditure of force to overcome it. In the heart with healthy valves and muscular tissue this practically always takes place. In Germany, in order to

graduate the lowering of the abdominal pressure, a large sand-bag is placed on the abdomen, immediately the vertex or presenting part passes through the vulvar orifice, and is retained there for at least an hour. The second theory is that advocated by Fritsch, who asserts that, as a result of the reduced abdominal pressure, the blood remains accumulated in the large abdominal veins; consequently, that the right heart, instead of becoming engorged, is anæmic. He accounts for the bloodless appearance of the lying-in woman and her small pulse by this means.

The pregnant woman may be the subject of several forms of cardiac lesion. They are: (1) Adhesions from former pericarditis, among which would be included those in which the heart has been displaced by pleural adhesions; (2) myocarditis and degeneration of the cardiac muscle; (3) endocarditis, chiefly affecting the valves (valvular heart disease); (4) acute endocarditis grafted upon the chronic form. It is important to bear in mind that valvular disease is not the only form of cardiac disorder which may give trouble; all the above-mentioned conditions may produce much distress and danger when complicating pregnancy, and it is frequently less often owing to a disturbed valvular mechanism than to a loss of reserve force of the heart that the so-called compensatory disturbances arise. If we consider that the condition of the blood of the pregnant woman, especially during the later months, is a defective one, it is quite evident that in a patient with heart disease there is a much greater risk of muscular degeneration. When compensation becomes insufficient during pregnancy certain phenomena occur in greater or less severity; these are varicosities of the legs and labia, œdema of the feet, legs and vulva, or even general anasarca, palpitation and syncope, irritable cough, bronchitis with dyspnœa and cyanosis, hæmoptysis, albuminuria, and, lastly, serous effusions into the peritoneal and pleural cavities.

Many women with marked but compensated valvular disease go through pregnancy and labour without any bad symptoms whatever arising, and the disease is discovered only by chance. If the histories of these cases be followed up, it will be found that frequently, after the first full-timed labour,

abortion or premature labour occurs again and again, and that each succeeding pregnancy is complicated by increasingly severe compensatory disturbances. This is well shown by statistics, which clearly prove that fatal results are nearly twice as frequent in cardiopathic multiparæ as in primiparæ.

1. If a patient, then, passes through her *pregnancy* without any bad symptom arising, treatment should be confined to the avoidance of over-fatigue, too much stair-work, and the regulation of the bowels. Compensatory disturbances may put in an appearance as early as the ninth week of pregnancy, though, as a rule, not until the fifth month. If the social position of the patient allow of it, she should be kept on one floor, and in the recumbent position. Among the poor this is obviously impossible, and accounts, probably, for the high percentage mortality observed among them. This treatment much relieves the work of the heart and obviates subsequent abortion. Should albuminuria set in, it must be looked upon as a serious phenomenon, and only exceeded in gravity by the supervention of nephritis.

As a rule, a mixture of liquor arsenicalis, \mathfrak{m} v, and liquor ferri dialysati (Wyeth), \mathfrak{m} x, or liquor strychniæ, \mathfrak{m} v, thrice daily, will counteract the anæmia and want of cardiac tone in these cases; and a stimulating mixture of ether and ammonia will be found necessary for the attacks of syncope.

Should marked œdema or effusion set in with dyspnœa, the exhibition of digitalis in the form of the tincture or infusion will be indicated, more especially in cases where the lesion is valvular and of the mitral variety. Spiegelberg is adverse to the use of this drug in aortic disease, and, certainly, its effects in my experience have not been so marked as in disease of the mitral valve. Tincture of strophanthus (\mathfrak{m} iii—x) is in some cases an extremely valuable heart tonic, but its administration is not advisable in aortic stenosis.

Exertion immediately after food should not be indulged in. Straining at stool must be avoided, and a gentle laxative of confection of senna, or sulphur lozenges, should be taken at bedtime, as circumstances require. If there is sleeplessness, bromide of potash or sulphonal may be given in moderate doses.

2. During *labour*, the patient will as a rule feel easier and less breathless if she assumes the sitting posture. In some cases severe dyspnoea may be present all through the labour, as is indicated by the gasping respiration, active *anæmiasis*, anxious facies, and blueness of the lips. During the first stage, subcutaneous injections of ether, or rectal injections of brandy, must be given at intervals according to the state of the patient. Should an excess of liquor amnii be present, and evidently interfering with respiration, it would be good practice to rupture the membranes even before complete dilatation of the cervix. Almost instant relief follows, but, unfortunately, it is not permanent. Where urgent symptoms have arisen with incomplete cervical dilatation, incisions have been recommended, but the necessity for such a severe procedure must occur but rarely. In ordinary cases, immediately the os uteri is fully dilated, delivery should be effected artificially, the patient not being allowed to endure any bearing-down pains. An anæsthetic must be given, and if the pelvis is roomy, the forceps applied, as she lies, in the dorsal decubitus. Either lateral position produces rapidly increased distress in the breathing. The pain of applying the forceps without an anæsthetic results in much greater shock than with it; ether should be given for choice. If there is pelvic contraction, version and completion of delivery must be effected. As a rule, during the operation the pulse will quiet down, the respiration be easier, and the patient's condition temporarily improved.

Extraction of the *fœtus* should be performed slowly, and a 12-lb. sand-bag laid over the fundus uteri during the process, so that its pressure may counteract the rapidly descending abdominal pressure, and hence avoid the consequent collapse from cerebral *anæmia*, or right-heart insufficiency. The bag must not be looked upon as aiding uterine contraction.

3. It is during the period following the birth of the *fœtus* that the maternal life is most endangered. Serious symptoms may commence at any time from *fœtal* delivery to the fourth day of the puerperium. It is, therefore, of the greatest importance to watch the patient most vigilantly during that period. Until quite recently the possibility of

post-partum hæmorrhage taking place was looked upon with the greatest apprehension, and all endeavours were made to obviate its occurrence, hot douches and large doses of ergot being strongly recommended. The more modern idea that the bad symptoms arising are due to over-distension of the right heart has been ably advocated by Berry Hart; he illustrates his paper by a frozen section of a patient's heart showing this condition, and he therefore strongly insists on the value of allowing free hæmorrhage to take place. My experience is entirely in accord with the opinion he expresses, and I believe that *post-partum* hæmorrhage should rather be encouraged than checked.

For this reason the administration of ergot seems strongly contra-indicated, as by producing contraction of the peripheral arterioles, it increases the resistance the heart has to overcome. Schlayer observed complete collapse in one of his cases almost immediately after a subcutaneous injection of ergotin. Fraser-Wright reports a case in which, immediately after the birth of the placenta, great dyspnœa, cough and hæmoptysis, with lividity of the face, came on. He gave the patient $\text{m} \vee$ of nitrite of amyl to inhale, with immediate relief; the breathing became easier, the lividity gave place to a red flush, and recovery took place. He considered that this was explained, first, by the action of the drug on the uterus, allowing freer hæmorrhage; and, secondly, by dilating the arterioles, permitted a greater quantity of blood accommodation in the peripheral circulatory system. I certainly think this drug worthy of a more extended trial. Venesection from either arm, theoretically a correct procedure, has not met with success in those cases in which it has been resorted to, and I cannot, therefore, recommend its adoption. At the same time, I found great relief given to the more distressing symptoms by the application of three leeches over the præcordia in one case (3). Therapeutical measures necessary in these cases will be alluded to in detailing Case 2.

I will now relate briefly four cases which I have selected from several under my care; they appear to me to be typical instances of the chief varieties of cardiac disease liable to be met with in practice.

Case 1.—Aortic stenosis and regurgitation: history of three labours.—Mrs. C——, aged twenty-one, a primipara, was first seen in February, 1885, for considerable dyspnœa and palpitation with almost daily attacks of syncope; she was five months pregnant, and on auscultation well-marked aortic stenotic and regurgitant murmurs were detected, the latter being audible 6 inches from the chest wall. Digitalis made her condition worse, and she only found relief from frequently administered doses of ether and ammonia.

The *first* labour commenced June 19th, 1885. She had several attacks of fainting during the first stage, the pulse intermitting and at times becoming imperceptible; these symptoms were treated by subcutaneous injections of ether and brandy. The forceps was applied under an anæsthetic immediately the os uteri was fully dilated, the placenta was adherent, and there was free hæmorrhage. No ergot was given. For three days she suffered from repeated attacks of syncope, but gradually recovered, and, with the exception of dyspnœa on movement and after food, remained well, but was unable to exert herself as much as before the pregnancy.

During the *second* pregnancy, her former symptoms were somewhat exaggerated, and she had several attacks of hæmoptysis. Labour commenced December 29th, 1886, and terminated naturally in two hours. The puerperium was attended with a return of the faints, which gradually ceased.

During the *third* pregnancy she suffered much from dyspnœa, cough and hæmoptysis; œdema of the legs with slight albuminuria appeared in the last two months. Labour was very rapid and terminated July 5th, 1888, before I could reach her. Temporary relief to her more urgent symptoms followed, and the physical signs were found very little altered. Six months afterwards her general condition was certainly worse than after her second labour; she has had cough, with slight hæmoptysis and considerable dyspnœa on the slightest exertion; most of her life is spent in the recumbent posture. No further pregnancy has occurred. The points of interest to be observed in this case appear to be the bad effect of the exhibition of digitalis, the progressive decline in health after

each labour, and the permanent damage to the cardiac muscle after the termination of the third labour.

Case 2.—Chronic mitral regurgitation ; asthma and emphysema ; first labour, serious symptoms arising on the third day of puerperium.—Mrs. X——, aged thirty-eight, pregnant for the first time, had been under the care of my colleague, Dr. Duffin, for many years, with well-marked mitral disease. She was never able to walk without getting palpitation and dyspnoea; for three winters she has had asthmatic attacks with increasing emphysema. She remained fairly well until the fifth month of pregnancy, when her cough increased, and she was attacked with periodic attacks of hæmoptysis, the blood being bright red in colour. Her face was dusky and the lips blue, but the pulse, although irregular, remained below 100.

Labour set in March 23rd, 1893. The sitting posture was necessary all through owing to the dyspnoea; with full dilatation of the cervix, the pulse had risen to 130, and an anæsthetic being given, the forceps was applied, delivery being quite easy. A tight binder was applied as the child was extracted. The placenta was expressed, no ergot was given, and there was no hæmorrhage. Her condition was quite satisfactory until the third day, except for the distressing cough and inability to lie down. She was then suddenly attacked with syncope without any apparent reason. On reaching her there was no pulse to be felt at the wrist; she was ashy white in colour, with cold, clammy sweat over the face, and gasping for breath, respirations being 42. Ether was injected subcutaneously with liquor strychniæ, gr. $\frac{1}{16}$, every two hours. These attacks continued, but with lessening severity, for three days. A mixture of tincture of digitalis, ʒss, and liquor strychniæ, ʒ xx, was given by the mouth every four hours, with the best effect, physiological symptoms of the latter drug occurring after the sixteenth dose, when the dose was reduced to ʒ v. Her recovery was very slow, but a year after the labour her condition appeared to be about as it was previous to her pregnancy.

This case shows very clearly that dangerous symptoms may be very late in appearing after labour, and that strychnia is an

extremely valuable drug to stimulate the heart's action, and so aid in emptying the engorged right side. The application of the binder was in imitation of the German sand-bag, which I had not, unfortunately, by me at the time.

Case 3.—Mitral stenosis and regurgitation.—Mrs. A——, aged thirty, a II-para, whose first labour was apparently normal five years previously. She was attacked by acute rheumatism two years afterwards, and, since this, has had well-marked physical signs of mitral disease.

During her present pregnancy she has suffered from cough, hæmoptysis, and swollen legs.

She was taken in labour May 3rd, 1892; the child was delivered by forceps; a sand-bag was carefully applied; the placenta came away naturally. There was no hæmorrhage, and no ergot was administered. She remained fairly well till the end of forty-eight hours, when severe dyspnœa and palpitation set in. The remedies already detailed in Case 2 were given, but without avail. Three leeches were then applied over the cardiac region with almost immediate relief. There was no return of the untoward symptoms, and her convalescence was normal. The physical signs eight months afterwards were unchanged.

Case 4.—Chronic mitral regurgitation; labour followed by acute endocarditis; death.—Mrs. B——, aged twenty-nine, had suffered from cardiac disease since childhood, and as the result of acute rheumatism. She had passed through three confinements without any serious symptoms arising, and was taken in labour for the fourth time June 3rd, 1890. She had slight dyspnœa during the first stage, but the second was concluded in twenty minutes, and no assistance was necessary. All went well until the fourth day, when her temperature went up to 103° Fahr., and there was some distress in breathing, with tumultuous action of the heart.

These conditions were unrelieved by any treatment. The temperature remained high, the breathing increased in rapidity, and a murmur appeared over the aortic valves. On the fourteenth day patches of pneumonic crepitation were detected over both lungs, and on the sixteenth she gradually became unconscious and died. The immediate cause of death

was considered to be due to multiple cerebral emboli. No *post-mortem* examination was permitted.

In cases of cardiac disease complicating pregnancy the question may arise as to the advisability of inducing abortion or, in the later months, premature labour.

In considering the treatment by artificial abortion, it is at once evident that if this course were generally recommended, it might be open to very serious abuse. Very few cases develop serious symptoms until later on in the pregnancy; and even Schroeder, who discusses the matter very carefully, comes to the very decided conclusion that cases in which such treatment is necessary must be extremely rare. Many obstetricians have never seen a case in which such a proceeding is indicated, and I am certainly most disinclined to sanction it.

With regard to induction of premature labour, we must consider that the condition of any patient in which it is thought a necessary operation is one of extreme gravity, and the mere fact of interrupting the pregnancy will not stay the cardiac degeneration which is going on. Although the patient may survive the labour, she will almost inevitably succumb during the early days of the puerperium. Schlayer reports three cases in which he performed it, all with fatal result—one *intra partum*, the others on the eighth and fourteenth days *post partum* respectively.

Of thirty-two cases collected from various sources, I find that twenty-two terminated fatally during the puerperium, and one *intra partum*.

We must consider, in addition, that the tissues of a woman with cardiac disease are more liable to invasion by septic germs than those of a healthy patient. There seem to be no precise indications by which we may define the limits of the operation. Marked cyanosis and hæmoptysis, with albuminuria and œdema of the extremities, have been considered as sufficient reasons for interference; but although relief may ensue, it is only of a temporary nature, and engorgement of the right heart rapidly recurs. I think, therefore, that the weight of evidence is decidedly against the resort to this method of procedure.

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VARICOCELE, NÆVUS, AND VARICOSE VEINS OF THE LEG TREATED BY THE METHOD OF SUTURE.

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THE arrest of bleeding by stitching the cut surfaces together dates back to a very remote period of surgical history. The introduction of the more direct methods, however, such as ligature, etc., appears so completely to have usurped the surgical mind, that but little was heard for a long time of the introduction of sutures solely for the suppression of hæmorrhage. One notable exception, however, exists. In wounds of the lips, either from injury, or from the operations for hare-lip and epithelioma, the universal practice has been to rely on the sutures for the arrest of bleeding from the coronary arteries; but in almost all other cases reliance was placed on ligatures applied directly to the arteries, and sutures were only used for the purpose of coaptation of the edges of the wound. Quite insensibly, however, the progress of modern surgery has shown how much can be done to dispense with the direct ligation of vessels of moderate size and substitute a system of deep sutures for the arrest of bleeding. It appears astonishing that with the good results so universally obtained in wounds of the lip so constantly before us we should have been so long in adapting this principle of treatment to other cases. The contrast between an excision of the breast twenty-five years ago and to-day illustrates very clearly the advantages of this method. Formerly, when a cancer of the breast was removed, all bleeding points were ligatured (often ten or twelve), the wound was brought together with a few points of interrupted suture passed only through the skin, and very explicit instructions were given to avoid anything like tension on the sides of the wound. The result was the formation of an extensive blood-clot in the wound, a copious blood-staining of the dressings; while severe intermediary hæmorrhage was not unfrequent. Now, by pressure-forceps, bleeding is temporarily arrested, and, subsequently, a series of deep sutures, so

as effectually to close the wound cavity, permanently arrests further hæmorrhage. In my own practice I rarely ever apply any ligature whatever in excision of the breast; four or five deep sutures are passed entirely under the wound cavity, and, before closing these, the edges are brought accurately together by a fine continuous suture, no drainage-tube being used; the deep sutures are now firmly closed over lead plates and, usually, bleeding is absolutely stopped; if hæmorrhage still continues from any point, an additional deep suture will usually make the wound absolutely dry. The result is that there is, practically, no bloody serum discharged from the wound, and the original dressings can be left undisturbed for many days. In amputations, also, only the very largest arteries are ligatured, complete coaptation of the surfaces effectually stopping all minor bleeding. In Whitehead's operation for piles, reliance is altogether placed on sutures for the arrest of hæmorrhage from the very vascular surface left by the excision of the "pile area," with the result that, if properly done, after-bleeding occurs much less frequently than after the other operations; indeed, it is quite usual to find that the pad of dressing applied to the anus is scarcely blood-stained after twenty-four hours. What, then, are the manifest advantages of this system over the plan of applying ligatures to every bleeding point? Decreased hæmorrhage from weeping of the cut surfaces; no wound cavities which require to be drained, and in which blood-clots can accumulate; and no ligatured ends of vessels to necrose, or foreign bodies in the shape of ligatures. In a perfectly aseptic wound no doubt a limited quantity of necrotic tissue, blood-clot, or ligature material can be absorbed; but the difficulty of maintaining asepsis may be said to increase directly with the quantity of such material in the wound. The less there is, the more certain and rapid is the healing.

This system of wound treatment appears to be capable of considerable development, and suggests many problems of much interest to discuss. I propose to consider three operations in which it appears to me an extension of this method constitutes a very considerable improvement in the operative detail. They are: varicocele, nævus, and varicose veins in the leg.

I take it as admitted that the subcutaneous operations for varicocele are obsolete, and that the only one now claiming attention is the excision of the mass of veins. Upon exposing the spermatic cord in an extensive case of varicocele, the veins forming the pampiniform plexus are found widely dilated and tolerably adherent together, so that, although difficult to separate from one another, they can easily be isolated *en bloc* from the vas deferens. We were formerly told that the spermatic artery could readily be separated with the vas from the mass of veins. Mr. Treves has, however, shown that the spermatic artery is more closely related to the mass of veins than it is to the vas deferens, so that, in all probability, in the majority of cases of this operation, the spermatic artery suffers occlusion. This, however, does not appear to be a matter of much importance, as the deferential artery, which closely adheres to the vas, inosculates freely with the branches of the spermatic artery over the epididymis, and is quite sufficient to maintain the circulation. There can also be seen a plexus of minute veins accompanying the deferential artery and surrounding the vas, which are not dilated, and which belong to a system quite separate from the spermatic. This deferential vascular system appears to be quite competent to completely carry on the testicular circulation when the spermatic artery and veins are thoroughly excised; and it is obvious that by thus transferring the circulation to another and undiseased system, complete and permanent cure is probable. A single case of sloughing of the testis is recorded, but, as it is an isolated example, it does not carry much weight. The way in which I now operate is as follows: An incision $1\frac{1}{2}$ inch long is made through all the covering of the cord, completely exposing the plexus of veins. The vas deferens is now carefully separated from the mass of veins for the whole length of the cord from close to the external abdominal ring down to the epididymis. This can readily be done, through the small incision made, by drawing the elongated cord out in a loop. A clamp forceps is now placed on the mass of veins at the top of the scrotum, and another close to the epididymis, and the whole mass cut away, leaving about a quarter of an inch projecting from each pair of

forceps. (Fig. 1.) The two cut surfaces are now very carefully brought together by a continuous suture of the finest catgut

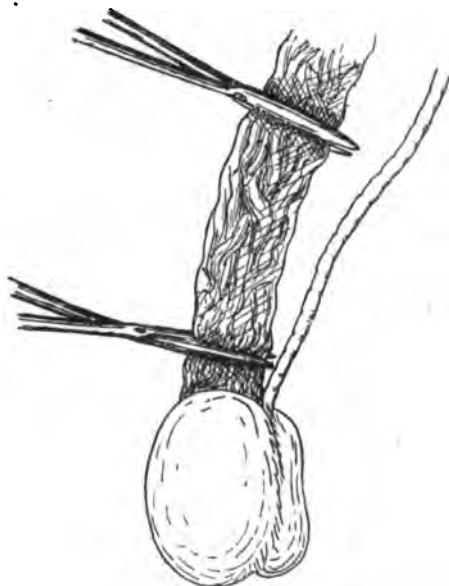


FIG. 1.

(specially prepared so as to be reliably aseptic) passed with a very fine glover's needle. Commencing at one edge, the needle is passed through the entire thickness of the cut surfaces at very short intervals, until the other edge is reached and included: the suture is then brought back again in the same way to the starting-point, and the two ends firmly knotted together. The clamp forceps are now removed, and, if the

sutures are properly applied, no bleeding takes place. (Fig. 2.) If, however, not quite dry, one or two points of interrupted suture will quite suffice to completely staunch the wound. *No ligature of any kind is employed.* The scrotal incision is now closed by continuous catgut suture passed so as to include all the divided fascial coverings of the cord; no drainage is necessary. The after-pain is slight, and convalescence is usually complete in eight or ten days under a single antiseptic dressing. I have operated during the past five years on nine cases by this method; all of them were extensive varicoceles, the testicle hanging down 5 or 6 inches,



FIG. 2.—VARICOCELE TREATED BY SUTURE.

and being much atrophied. All of them recovered without hæmorrhage, and none of them suppurated. Three have since passed into the Army Medical Service, and one has obtained a commission in the R.I.C.; in none has there been any recurrence.

Before adopting this method, where simply the veins were ligatured and excised, I found that the elongation of the scrotum continued after operation, and even was increased thereby; various methods have been recommended for bracing up the testis, but all of them are unsatisfactory. The suggestion of Mr. Bennett, to ligature the cord in two places and excise the mass in the usual way, and then knot the two ligatures together so as to shorten up the cord, appears to be unscientific, as it brings into apposition the two stumps rendered necrotic by the ligatures, so that adhesion cannot take place. By the method I have recommended, however, firm union takes place, and the cord is permanently shortened.

Another advantage is that no devitalised tissue is left to be absorbed and threaten the asepis of the wound. The catgut used, however, must be above suspicion. I have found the best way to prepare it is as follows:—The finest dry gut is loosely coiled on a glass reel and put to soak for several days in a saturated solution of corrosive sublimate in ether; it is then taken out, the excess of solution shaken out, and kept for use in strong alcohol, which sufficiently reduces the strength of the corrosive sublimate. Only the very finest catgut should be used, as it is impossible completely to sterilise the interior of thick catgut. If for any purpose a stronger string is required, it can be easily prepared by twisting together several strands of the fine gut; I have tried experiments with gut prepared this way and kept for a long time in alcohol, and invariably found it sterile in a cultivation medium.

A somewhat similar method of operation is eminently suitable for the excision of selected cases of nævus; in fact, it can be applied to almost any nævus which could be treated by ligature. 'Long glovers' needles are passed under the nævus, ready threaded with boiled silk; each needle is entered a quarter of an inch from the margin of the nævus, under the

growth, and out a quarter of an inch beyond the growth on the opposite side. The number of needles varies, of course, with the size of the nævus; they should be passed parallel to one another at distances of about half an inch apart, and extend from one extremity of the nævus to the other. All the needles are left in position without drawing the threads

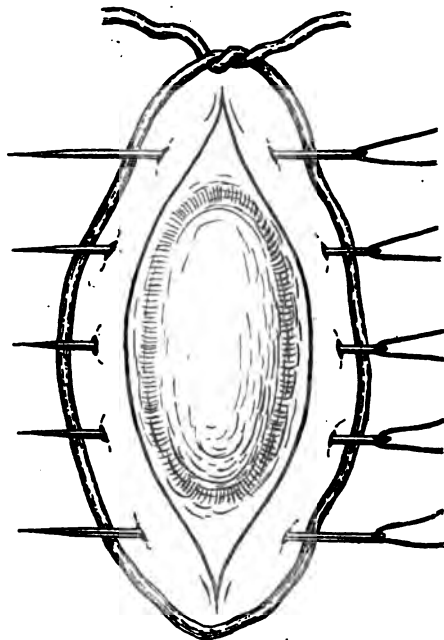


FIG. 3.—NÆVUS TREATED BY SUTURE.

through, while an elastic ligature to temporarily arrest bleeding is provisionally tightened underneath the needles. The nævus can now be excised at leisure, as the bleeding is under control. An elliptical incision is made down to the needles, leaving a margin of healthy skin all round, the elastic ligature is taken off, the silk threads rapidly pulled through, and the sutures firmly closed; if any bleeding comes from any point between the sutures, a few additional points of suture can be passed by a curved needle. (Fig. 3.) The advantages of obtaining a clean linear scar, healed in a week, over the slow sloughing away of a ligatured nævus are obvious.

I have operated in this way six times, and have every reason to be satisfied with the results.

In excision of varicose veins in the leg it assists much the aseptic healing if we dispense with ligatures to the divided veins. This can readily be done by means of sutures. An incision is made over the section of vein intended to be excised,

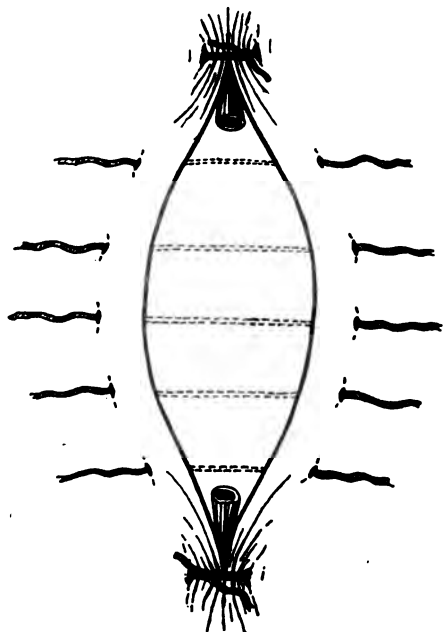


FIG. 4.—VARICOSE VEINS OF LEG TREATED BY SUTURE.

the vein caught by two pairs of catch forceps, divided between them, and dissected free to the upper and lower limits of the incision. A series of deep silk sutures are now passed under the wound, the one at each angle passing under the vein. These two sutures are first closed, and as they completely control the bleeding, the portions of vein to which the catch-forceps are attached may be snipped away close up to the sutures; a continuous fine catgut suture is applied to the edges of the wound, and, afterwards, the other deep sutures are closed so as to completely obliterate the wound cavity. (Fig. 4.) The deep sutures may be removed about the fifth

day. I have operated eighteen times by this method with complete asepsis and satisfactory obliteration of the vein.

The above three operations illustrate what I consider to be useful expansions of the treatment of bleeding by sutures, and I am sure other developments of the method will occur to any surgeon who, from practical application of the procedure, becomes impressed with its utility.

HÆMORRHAGE AFTER CATARACT EXTRACTION.

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IN reading accounts of the brilliant results furnished from time to time by certain operators, we are almost led to imagine that with the aid of more complete asepsis, finer instruments, or the exclusive adoption of one or other method of operation, we shall be able to ensure complete success in every case of cataract extraction.

When, however, we turn from our vain imaginations, induced by these roseate records, to encounter actual facts, we discover that, in spite of every precaution, cases will occur in which we can not only not secure success, but not even modify the untowardness of the final result.

Such a case was the following:—Mrs. B., aged about seventy-eight, consulted me in September, 1894, for failing eyesight. It was then discovered that she had a mature cataract in the right eye; and as there was good light-projection and normal tension, extraction was recommended, subject to the approval of her personal medical attendant.

That gentleman at my request examined the urine, and reported it to be free from both albumen and sugar. He further stated that, although the patient had been the subject of a cardiac trouble, probably of a degenerative nature, and was extremely nervous, he was of opinion that she might safely undergo the proposed operation.

I judged it best to proceed by doing a preliminary iridectomy, as by this method the time occupied in the operation is curtailed, and less shock is experienced by the patient.

The iridectomy was accordingly done on October 10th, and the wound healed in an entirely satisfactory manner.

October 30th.—The final operation for extraction of the lens was undertaken. The eyeball and its appendages were first thoroughly washed with a weak solution (1 in 4,000) of corrosive sublimate, then a 10 per cent. solution of cocaine was instilled. The section of the cornea was next made. Up to this time the patient had been in a very excitable condition. She now lost her self-control, and, just as the equator of the lens had passed the wound, she forcibly squeezed out some vitreous, but not in any quantity, and we were able to adjust the edges of the wound and apply the requisite pads and bandage. No blood escaped during the operation.

October 31st.—Patient has passed a very restless night, sitting up and desiring to get out of bed; she had to be almost forcibly restrained by her attendants. However, when I examined the eye everything was satisfactory; there was no discharge on the pads and no swelling of lids.

Some six hours later in the day I was summoned by telegram, and on reaching the house was told that a red fluid was coming through the bandage. This account I soon found was not exaggerated, for, in addition to the dressing I had applied, some pads of cotton-wool that had been placed over the bandage by the nurse were saturated with blood. When these were removed the eyelids were seen to be much swollen and tightly stretched over the globe, while some blood-clot filled in the aperture between them. As the hæmorrhage had apparently stopped, nothing more was done than to reapply the bandage, order ice-cold pads and a sedative mixture.

By the following day the swelling of the lids had subsided sufficiently to allow of inspection of the eyeball. The edges of the corneal incision were widely separated by a large blood-clot, which extended into the interior of the globe, and by its opaqueness prevented any view of the fundus.

Henceforth there was no return of the hæmorrhage, and the eyeball gradually shrank without any great amount of pain—

a result that under the circumstances was the best that could happen, for one feared the possible advent of panophthalmitis, and dreaded being compelled to expose the patient to the shock and risk of any further operation.

Remarks.—The chief interest in this case rests in the fact of its being an example of a happily rare occurrence after cataract extraction—so rare, indeed, that several well-known text-books on diseases of the eye make no mention of this catastrophe as being liable to happen.

The Records of the Liverpool Eye and Ear Infirmary for the last seventeen years, with a few private cases added, giving a total of 1,000 operations for senile cataract, include only one example of hæmorrhage into the vitreous. In this instance the bleeding commenced before the patient had left the operating table, and the eye was enucleated at once.

Again, as further evidence that these cases are not of everyday occurrence, it may be mentioned that during the session of the International Ophthalmological Congress last year a discussion on Retro-choroidal Hæmorrhage was initiated by Professor Dufour, who reported six cases in his own practice. None of the other members who took part in the discussion had seen more than two, and it further appeared that most of these had happened in eyes that were glaucomatous.

My patient, I regret to learn, died about a month ago from angina pectoris. This tends to confirm one's opinion that the primary cause of the hæmorrhage was degeneration of the choroidal vessels, and it seems as though the only way to avert otherwise unavoidable hæmorrhage after cataract extraction is to decline to operate upon patients in whom vascular degeneration is obviously present.

ON SOME EFFECTS PRODUCED BY CASEOUS BRONCHIAL GLANDS IN CHILDREN.

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THE importance of lesions resulting from the caseation and softening of the lymphatic glands situated around the lower end of the trachea and the main bronchi has hardly received that attention which both clinical and pathological investigation show it merits. I have, therefore, collected some cases which have come under my own observation at the Hospital for Sick Children and at the Middlesex Hospital; and by means of these I wish to draw attention to some of the results which may follow the caseation or softening of these glands.

For the purposes of this paper I have classified the cases under the following heads:—

1. Those in which enlarged glands compress the air passages.
2. Those in which they ulcerate into them.
3. Those in which they invade the œsophagus.
4. Those in which they invade the œsophagus and air passages.
5. Those in which the pericardium is invaded.

I have not mentioned another class of cases in which the lung itself is secondarily involved by caseous glands without any ulceration into a bronchus, as I have called attention to this point in a paper published in the "Transactions of the Pathological Society," vol. xlii., p. 46. Of the first class I would mention a case which occurred at Great Ormond Street, which illustrates the effects produced by pressure of enlarged glands on one bronchus, and is interesting from the point of view of diagnosis.

C. McC——, a boy aged six years, was admitted on Sept. 30, 1889, into the Hospital for Sick Children, under the care of Dr. Cheadle, with the following history:—In June he was

said to have swallowed a leaden dress-weight; he became cyanosed, and vomited. Since that time he never seemed well. The symptoms noted were wasting, night sweats, cough, and dyspnoea on exertion. The cough was paroxysmal and exhausting; there was no hæmoptysis. For a fortnight before admission he had vomited after food.

On admission the child was wasted, dusky in colour, temperature 100°. The veins over the thorax were enlarged. At each inspiration there was recession of the lower half of the sternum, and the movements over the right side of the chest were deficient. Vocal fremitus and the percussion note were natural and equal on the two sides of the chest. The breath sounds were weaker on the right side than on the left, and a few moist râles were heard during inspiration on the right side only.

Two days later, distinct but weak tubular breathing was heard in the right interscapular region at the level of the spine of the scapula, and the vocal resonance at this spot had a nasal character. Sharp inspiratory crackles were heard over both lungs. The voice was natural, and there was no stridor.

Five days later the breath sounds over the right upper lobe were markedly weaker than over the left upper lobe, and the vocal fremitus and vocal resonance were more marked in the right than in the left interscapular region. The temperature varied between 98·4 and 102°, and ten days later increased vocal fremitus, some dulness, bronchial breathing, and fine inspiratory crackles were noticed in the right axilla.

Nine days later the tubular breathing in the right interscapular region was still well marked, but some less marked tubular breath sounds were heard in the left interscapular region.

Four days later (a month after admission) the boy was distinctly worse; he had attacks of dyspnoea and cyanosis, and could not lie down in bed. The temperature was distinctly hectic.

From this time the boy got worse, having marked orthopnoea and cyanosis, and the face became œdematous. Signs of general catarrh of both lungs showed themselves, and

the child died on the morning of Nov. 6. The sputum was repeatedly examined for tubercle bacilli, but none were found.

At the *post-mortem* examination a large mass of caseous glands measuring 2 inches from above down and $1\frac{1}{2}$ inch across was found lying above and in front of the right bronchus, and just overlapping the trachea at its bifurcation. Below the bifurcation of the trachea was a separate, partly-caseous lymphatic gland.

The right bronchus was distinctly flattened by the mass of glands which were adherent to it, but there was no ulceration into the bronchus. The larynx was natural. Both lungs were practically solid with greyish-yellow tubercles.

The history in this case was misleading, and justified the view that a foreign body might be present in the right bronchus, and might be setting up destructive disease in the right lung, and the repeated failure to find tubercle bacilli in the expectoration rather encouraged this view. It was, however, recognised that no body of the size mentioned could possibly have passed the child's glottis. The signs present in the lung did not explain the dyspnoea, but the case illustrated the importance of watching any abnormal breath sounds present on one side only.

The evidence derived from percussion has always seemed to me of doubtful value in a child as an indication of simply enlarged bronchial glands, for in small children the presence of the thymus gland ensures a deficient resonance, but alterations in the breath sounds are much more important, especially when they are unilateral. The most common alteration of breath sounds in these cases is divided respiration, with prolonged expiration, unaccompanied by any adventitious sounds, but as similar signs are produced by consolidation of the lung, from tubercular deposit, or from pneumonia, even the unilateral distribution of these signs cannot justify more than a suspicion that the glands are enlarged. There is, however, one not unimportant point to remember in dealing with pulmonary tuberculosis in small children, and that is that the disease in them nearly always affects both lungs, and that the mischief can often be traced from the hilum of the lung outwards.

The next class of cases is that in which the enlarged glands actually invade the air-tubes and ulcerate through them. This may take place from tubercular infection of the walls of the air-tube by direct extension from a tubercular gland, and the subsequent caseation and ulceration of the tubercular deposit; or it may be due to softening of the gland and erosion of the walls of the air-tube by pressure and inflammatory processes; or, lastly, it may be due to the calcification of a caseous gland, with subsequent ulceration of the cretaceous nodule through the walls of the air-tube.

That the condition is not rare is shown by the comparative frequency with which the evidence of ulceration is met with unexpectedly in the *post-mortem* room, and I have seen over a dozen such cases in autopsies I have made myself.

I will mention four cases in which this condition was found *post mortem*, and then will describe a case in which during life I thought the condition was present.

W. K—, a boy aged five and three-quarter years, was admitted, under the care of Dr. Barlow, into the Hospital for Sick Children in August, 1890, complaining of cough. The breath was very offensive. The lower part of the right axilla and the right back were dull, and over the dull area the breath sounds were weak, the vocal resonance increased, and fine crackles were heard. A week after admission he vomited some mucus streaked with blood, and it was noted that there was tubular breathing at the angle of the right scapula, and that the râles there had an amphoric character.

Three days later the child coughed up 1 ounce of bright blood. Gangrene of the lung from the softening of a bronchial gland was diagnosed, and a portion of the sixth and seventh ribs removed in the right interscapular region by Mr. Pitts; and an attempt was made to find the cavity, but without success. The child rallied from the operation, but died seven hours later after coughing up some more blood. At the *post mortem* a mass of caseous glands was found at the root of the right lung; some of the glands had softened, leaving a cavity opening freely into the right bronchus, and containing blood-clot and broken-down caseous material. The lower lobe of the lung showed a gangrenous patch at its base posteriorly; the

surrounding lung, and also the upper and middle lobes, showed pneumonic consolidation. The exploratory opening into the lung was above the gangrenous patch. There was no distinct evidence of tubercle in the lung, and only a few tubercles on the pleuræ near the caseous glands. The left lung simply showed emphysema.

In this case the diagnosis was confirmed, but the condition of the child at the time of operation gave little hope of a successful issue. It is interesting to note that, although the offending gland was undoubtedly tubercular as evidenced by the local infection of the pleura, yet the pulmonary gangrene was not due to any purely tubercular process.

The next case has already been recorded in the "Transactions of the Pathological Society." In this case a caseous gland ulcerated into the bronchus leading to the middle lobe in the right lung, and set up by aspiration of tubercular material caseation of the right middle lobe. Instead of getting a tubercular infection of part of a lung, we may get a simple peribronchitis, with destruction of lung tissue, from inflammation set up by the presence of a calcareous instead of a caseous nodule which has ulcerated into a bronchus. This occurred quite recently, at the Middlesex Hospital, in a man in whom I found a scar in the bronchus leading to a gangrenous cavity in the lung, and in whom there was no other evidence of recent tuberculosis. The appearances were similar to those presented by cases of foreign bodies in the bronchi, and I have no doubt that the gangrene of the lung was produced by the irritation set up by a calcareous nodule which had ulcerated from a bronchial gland into the bronchus and had then acted as a foreign body in the lung.

The ulceration of a gland into the air-passage may produce sudden dyspnoea and fatal asphyxia, the gland acting in the same way as any other foreign body in the larynx. This occurred in the fourth case I refer to, in which the death of a female child aged three was attributed to a piece of apple becoming lodged in the larynx. I found that what had been taken for a piece of apple was really a portion of a caseous gland, which had ulcerated into the left bronchus and become impacted into the glottis, and had produced asphyxia.

E. C——, a girl aged four years, was brought to the outpatient department at Great Ormond Street at the end of 1892 for cough and weakness. She had had good health till the spring of 1892, when she had measles, was very ill, and had an irritating cough. Four weeks later she had bad dyspnœa, and a swelling suddenly appeared in the neck, and spread to the eyes and down to the navel. With the onset of this swelling the dyspnœa disappeared, and the child expectorated pus and blood. The swelling gradually lessened, and in three weeks had entirely disappeared. The expectoration of blood and pus continued for about three weeks.

On examination, the only abnormal signs were some friction over both posterior bases and some distinct bronchial breathing in the right interscapular region. In this case I came to the conclusion that the child must have had caseous glands pressing on the air-tubes, and that the glands softened and discharged into the trachea or bronchus, and that the swelling was due to the escape of air into the subcutaneous tissue, giving rise to surgical emphysema.

In this way we can understand the combination of the relief of dyspnœa and the occurrence of surgical emphysema and the expectoration of blood and pus. Although there was bronchial breathing in the right interscapular region, I do not think that we can say that the gland ruptured into the right bronchus, for the history points to a softening of the gland previous to its rupture into the air-passage; and under these conditions we should expect very little alteration in the breath sounds to remain after the discharge of the softened gland. The bronchial breathing points rather to the presence of an enlarged gland which has not yet softened.

Ulceration may take place into the œsophagus, though this is a rarer accident than rupture into the air-tubes.

In 1891 I collected from the *post-mortem* records of the Hospital for Sick Children four such cases out of 2,500 *post-mortem* examinations; and since that time I have come across four other similar cases in children—in two of these cases the gland ulcerated into the bronchus as well as into the œsophagus, and in the other two the œsophagus alone was affected. In these two latter cases there was no evidence

during life of any œsophageal mischief. One of the former cases may be related, as it illustrates the subsequent effects on the expectoration, vomit, and fæces.

J. M——, a boy aged four years, was admitted under the care of Dr. Sturges into the Hospital for Sick Children on July 9th, 1891. He had been ailing for six weeks, and had had a cough for three weeks before admission. Three or four days before admission he vomited with the cough. On admission the left side of the chest was dull; the breath sounds on the left side were weak above and absent at the base. Vocal fremitus was absent over the left side, and vocal resonance very weak. Fluid was diagnosed in the left pleural cavity, pus was found with the exploring needle, and on the next day the chest was opened, a piece of rib being resected; but no collection of pus was found. The lung was adherent around the resected piece of rib. When the wound was dressed, the child coughed up some non-offensive green pus.

The child improved, and eighteen days later the opening in the chest had healed. During August he gained weight, but on the 10th of August was sick five times, and brought up some blood; and again on the 17th and 18th was sick, without bringing up any blood. The temperature varied between 98° in the morning to 102·5° at night.

At the beginning of September the child became worse; the left side of the chest moved less than the right side, and the percussion note was impaired all over the left front and dull over the whole back and the outer part of the upper three spaces in front and in the upper part of the left axilla. Over the left front and upper axilla the breath sounds were tubular; over the back they were weak.

On September 16th the child, after an attack of coughing, had two sharp attacks of hæmorrhage, losing 7 ozs. of blood. On the next day he was very bad, but suddenly sat up in bed, brought up about $\frac{1}{4}$ oz. of bright red blood, passed dark blood per rectum, and died.

At the *post-mortem* examination the left lung was found firmly adherent to the parietes. The upper lobe showed tubercular consolidation; the lower lobe contained a large cavity filled with blood and breaking-down lung tissue.

Into the cavity a large bronchus passed which had been destroyed by ulceration produced by the pressure of a large mass of caseous glands the size of a walnut, which lay against the ulcerated end of the bronchus and projected into the pulmonary cavity. The left bronchus higher up was perforated in three places.

A probe passed through one of these three perforations passed backwards into the œsophagus, in which were two perforations on its anterior wall, through which dark offensive blood clot projected. The cavity in the lung opened by a small hole opposite the opening made by the resection of part of the seventh left rib.

The right lung contained recent grey granulations in all three lobes, but there was no caseation. The stomach and intestines contained recent dark blood-clot. This case seems of especial interest in showing, during life, evidence of ulceration into the œsophagus.

Although I have seen only five cases in which the œsophagus has been perforated by caseous glands, I find, in looking over the records made by Dr. F. E. Batten while he was Registrar at the Hospital for Sick Children, that in 383 *post-mortem* examinations there were four cases in which caseous glands had ulcerated into the œsophagus, and in all these cases ulceration had also taken place into a bronchus—twice into the right and twice into the left. In these 383 autopsies I find he has noted no fewer than eight other cases of ulceration of glands simply into the bronchi, six being into the right and two into the left bronchus.

The last class of cases is rare.

B. D—, a girl aged four years, was admitted into the Middlesex Hospital under the care of Dr. Cayley. The child had always been delicate, and had had scarlet fever and measles, from which she had apparently recovered. One month before admission she had whooping cough, and had been gradually wasting. For a fortnight before admission she had been feverish and had had a cough, but never coughed up any blood, but in the last week she had vomited blood on two occasions. On admission she was weak and pale—temperature, 101·4°; respiration, 34; pulse, 140. There was slightly

impaired resonance over the left posterior base, with numerous moist sounds over both lungs. The breath was very offensive, the expectoration foetid and abundant.

Two days after admission the temperature rose to 102.4° , and on the next day tubular breathing was noted over the upper part of the right lung. The breath continued to be very offensive, and on the fifth day after admission the child died.

At the *post-mortem* examination anterior mediastinitis was found, and a mass of caseous and softening glands was seen at the root of the right lung. These had perforated into the pericardium at its upper part, between the aorta and the right auricular appendix, by an opening 5 mm. in diameter, and had set up general pericarditis. The apex of the right lung for two inches was invaded and rendered gangrenous by the mass of caseous glands before noted. The œsophagus was perforated in two places above the right bronchus by the mass of glands which had ulcerated into the lung. The cartilages on the right side of the trachea were eroded superficially.

This case illustrates a rare result of caseous bronchial glands, in addition to reminding us of the difficulty in diagnosing the occurrence of pericarditis, especially in cases where we already have anterior mediastinitis. Although this is the only case of pericarditis I have seen produced in this fashion, yet I have seen an infection of the pericardium with tubercles without any actual ulceration of caseous glands through the wall of the pericardial sac.

It will be noticed that in many of the cases in which ulceration took place into a bronchus the breath had a very offensive odour, and though this probably only indicates rapid death and decomposition of lung tissue, we must bear in mind the relative frequency with which this condition is induced in children by the ulceration of bronchial glands into the air passages. Hæmoptysis alone may accompany the ulceration into an air tube, but the co-existence of fœtor of the breath with hæmoptysis, and evidence of pulmonary consolidation, should render us very suspicious of the bronchial glands as the source of the trouble. When the

vomiting of blood, and its passage by the bowel, is added to these signs, the diagnosis of glands rupturing into the bronchus and œsophagus is, in a child, the most likely one.

With regard to the treatment of these cases, there is, unfortunately, little that we can do; but a recognition of the importance of the glands, and the readiness with which they become the seat of tubercular deposit and subsequent caseation, should impress on us the danger of neglecting the vigorous treatment of pulmonary catarrh, especially of that form which follows on measles or whooping-cough. When we remember that great strain is thrown on these glands in all inflammatory states of the lungs and bronchi, and that this overtaxing of their powers leads to their diminished vitality, and to the possibility of tubercle finding a seat at which it can multiply, and from which it can infect both locally and generally, then we shall appreciate the necessity for suitable food, air, and clothing in the treatment of the convalescence from such diseases as measles and whooping-cough, and not merely content ourselves with considerations of the question of infectiousness or non-infectiousness of convalescence.

When enlarged glands merely press on the trachea or bronchi, tracheotomy offers no relief, even if followed by the passage of a tube into the bronchi, for, as far as I have been able to make out, the symptoms are not merely due to the narrowing of the air passage, but also to spasm of the muscles of the air tubes, induced by the pressure on the walls of the trachea or main bronchi. When a gland ulcerates into an air passage, tracheotomy may be called for if the caseous mass be either free or only adherent by its capsule, but these cases are usually so urgent that the operation is done without a diagnosis being made as to the nature of the foreign body in the larynx. When there is reason to suspect destruction of lung tissue by an ulcerating gland, the prognosis is extremely grave; and with definite dulness over a lobe, especially if it were over the lower one, and signs of excavation with gangrene of lung, the lung should be explored by resecting a portion of one or two ribs, and then using an exploring syringe to search for the gangrenous patch; and if it is found,

it should be laid open and drained. In such cases the lung is usually adherent to the pleura, and the gangrenous patch is generally considerably below the level at which the signs of a cavity are found; this being due to the fact that there is often one cavity at the root of the lung and another one more at the surface and frequently nearer its base. Of course in each case the site of operation must be selected after a careful physical examination, but I wish to point out the rapidity with which the gangrenous process extends downwards, and hence the necessity for an opening low down if we are to hope to drain the cavity.

The surgical treatment should be supplemented by the use of deodorant inhalations such as eucalyptus or creasote, which may be administered on a respirator, or more conveniently given by means of an inhaler or a hand spray.

I am indebted to Dr. Cheadle, Dr. Barlow, and to Dr. Cayley for having kindly allowed me to use cases under their care at the Hospital for Sick Children, Great Ormond Street, and at the Middlesex Hospital.

Comparative Studies.

II.—THE TREATMENT OF FRACTURED PATELLA.

FRACTURES of the patella are usually divided into two groups—viz. those arising from direct violence, and those due to excessive muscular action, the difference between them being a matter of the greatest significance. Fractures due to direct violence are as a rule comparatively unimportant, consisting usually of simple fissures, without separation of the fragments or laceration of the fibrous capsule covering the front of the bone. Hence, although the joint may become distended with blood, no bad results follow in the ordinary course of events, and all that is needed is to immobilise the limb on a back splint or in plaster of Paris for a few weeks, to allow of consolidation of the fragments.

Fractures due to muscular action are, however, of a very different nature, owing partly to the greater violence employed in the accident, partly to the separation of the fragments, and largely to the difficulty of maintaining them in efficient apposition. Moreover, the immediate result of the lesion is freely to open up the articular cavity, which becomes distended with clotted blood and synovial effusion, and thus still further increases the interval between the osseous surfaces. For a similar reason—viz. the tension of the blood clot—the fragments are usually rotated so that the broken surfaces are directed forwards. In addition, it must be remembered that the thick fibrous investment of the patella often yields at a lower level than that at which the bone gives way, and hence a flap or tag of this tissue is liberated, which is almost always plastered down over the broken surface of the upper fragment. Hence it is obvious that union by bony tissue is almost a matter of impossibility, unless special precautions are taken to remove the effusion in the joint and to appose the separated fragments, whilst removal of the tags of fibrous capsule, if present, is also most desirable. The majority of surgeons are perfectly satisfied if they can obtain firm fibrous union with a movable knee; and that this can

be effected with excellent functional results there can be no doubt. Formerly such treatment was frequently followed by stretching of the bond of union and secondary separation of the fragments; but of late years, since the importance of prolonged immobility has been more fully recognised, this sequel has become much less common. In a paper such as this it is impracticable to deal with every method employed in the treatment of recent fractures of the patella, but the following facts will give a general idea of the chief plans adopted.

Mr. Willett (*St. Bartholomew's Hospital*) depends mainly on plaster of Paris as a means of immobilising the limb and fixing the fragments in position, considering that thereby firm fibrous union is most certainly established. As soon as the patient is seen, unless there is excessive exudation, the knee is enveloped in plaster so as to control the amount of effusion into the joint. The plaster case is applied in the usual way, first covering the limb with a thick layer of cotton-wool, retained by a domette bandage, and over this the plaster is applied. The patient is kept in bed for three or four weeks, but the apparatus is maintained in position for three months, although it may be necessary to readjust it if it becomes loose from atrophy of the muscles. When there is much effusion, the limb is kept at rest on a back splint until the fluid has been absorbed, and then a subcutaneous silver wire is applied around the fragments, according to Butcher's plan, and the limb at once encased in plaster. Twelve months' treatment is always insisted on, a Middlesex Hospital splint being applied after the expiration of three months, and the patient allowed to walk about, with gradually increasing range of movement. Although Mr. Willett has employed the open operation of wiring in one or two instances of secondary operation, he considers it inadvisable. The result he aims at is that the fragments should not be separated more than a third of an inch, the interval being bridged over with firm fibrous tissue, which at the expiration of twelve months' treatment may be expected to be as firm as or firmer than bone, and less likely to give way again. In the majority of cases full mobility of the knee is restored, the limb becoming as strong and useful as if it had never been injured.

Mr. Pick (*St. George's Hospital*) has tried almost all the different plans of treatment which have been suggested for recent fractures of the patella, except wiring, but now rarely uses any but a slight modification of that known as the Middlesex plan. The limb is left for a few days on a back splint with an ice-bag applied and, if the effusion is great, a Martin's bandage in addition. A piece of moleskin plaster is then fitted accurately to the upper border of the bone, and the leg placed on a back splint with a footpiece. India-rubber accumulators are then attached to each side of the moleskin plaster above and to the foot-piece below, so that elastic traction upon the upper fragment is constantly maintained. This apparatus is kept in situation for about three weeks, and then plaster of Paris applied for eight weeks. A knee-cap is then ordered, and worn so that all active mobility of the joint is prevented for twelve months. Firm fibrous union is by this means readily obtained; and if the treatment is carried out in its entirety, the cicatrix is not very likely to stretch to any considerable degree. Mr. Pick considers that the next best treatment to the above consists in aspirating the joint and putting it up in plaster of Paris, in a Croft's splint.

Mr. Howse (*Guy's Hospital*) considers that no one method is suitable to all cases, but that the treatment should vary according to whether the fracture is simple or severe. In *simple* cases, where there is little or no separation of the fragments and comparatively slight effusion of blood into the articulation, apposition is obtained by mechanical appliances alone without any operation. The limb is placed on a back splint, and demilunes of felt plaster fitted to the upper and lower borders of the bone. These are supplied with a backing of perforated zinc to give them a little more rigidity, and secured *in situ* by tapes. Holes are bored through the adjacent borders of the demilunes so as to allow of the passage of interlacing tapes, by means of which approximation of the fragments is obtained, and also, by their presence in front of the joint, tilting forwards of the bony segments is prevented. This apparatus is kept in position for six weeks, the tapes being tightened when necessary. The limb is then encased in plaster of Paris for a variable time, and the patient allowed to

walk about with a stiff knee; on an average three months is spent in this way, and subsequently he is permitted to get about without any support. Five months is thus about the average length of treatment. In the *severer* cases, where there is considerable separation of the fragments and much effusion of blood, Mr. Howse always employs the open operation, considering it less risky and much more satisfactory than any subcutaneous method. He uses a longitudinal incision, washes the joint out with a solution of corrosive sublimate (1 in 2,000), and unites the fragments with one median suture of silver wire. The limb is immobilised in a laced-up Bavarian or plaster splint, and passive movement commenced about five or six weeks after the operation, the actual period depending on the severity of the injury. The splint is undone and removed each day, so as to allow the passive movement to be undertaken. About the ninth or tenth week active movements are permitted; and as soon as the patient gets pretty good control of the joint, he is allowed to walk about—i.e. about three months after the operation. In some cases Mr. Howse has allowed of movement much earlier than this, but does not consider it a wise or safe proceeding.

At *King's College Hospital* both Mr. Rose and Mr. Cheyne, —and, indeed, all the surgeons—treat a fractured patella by the open method, as taught by Sir Joseph Lister. The limb is placed on a back splint for a few days, with perhaps an icebag applied. After thorough purification of the skin, the joint is laid freely open, either by a vertical incision or, more usually, by a curved horseshoe-shaped one, with the idea of placing the cicatrix away from injurious pressure, as also away from the line of fracture. All blood clot is now gently sponged out of the articular cavity and the fractured surfaces cleared of all fibrous tags and shreds of aponeurosis. If a week or two has elapsed since the accident there may be a deposit of lymph covering the surfaces, which is also removed so that osseous tissue may be clearly exposed. The bones are then carefully drilled with suitable bradawls, to permit of the passage of silver wire of medium thickness through the fragments. To do this the periosteum should be incised down to the bone, slightly cleared away, and then held aside by two pairs of artery forceps. The drill is then inserted obliquely,

and made to project on the fractured surface at the junction of the articular cartilage with the bone. It is absolutely essential that the wire tracks should be placed exactly opposite each other, so that there may be no lateral displacement of the fragments, whilst the greatest care must also be directed to seeing that the points of exit of the wires on the opposite surfaces of the fracture are on the same level, otherwise a projecting intra-articular ridge will be left, which is sure to lead subsequently to impairment of function. The wire is then passed from below upwards, the limb being fully flexed in dealing with the upper fragment. If a second wire is considered necessary, the same process is again repeated. The knee is extended, the joint once more gently sponged out, and the wire drawn tight with necrosis forceps and twisted or knotted together, the knot being placed over one or other of the two fragments and not over the line of fracture. It should be beaten down into the periosteum later on with a small hammer, so that no projecting edge may lead to irritation of the skin. All hæmorrhage is now staunched, and the wound closed by a continuous suture with or without the use of a drainage tube, as may be thought advisable. The wound is dressed in the usual way and the limb placed on a splint; healing by first intention usually follows, and if all goes well passive movement is commenced at the end of a week or ten days, the splint is removed at the end of the second week, and the patient allowed to move the limb gently in bed. He is permitted to get up and walk about without a splint or any protection, but with the aid of a stick, at the end of three weeks; and, under favourable circumstances, the limb will be restored to full functional utility and strength by the end of eight or ten weeks. In some cases associated with much laceration and injury, it is advisable to keep the limb immobilised somewhat longer.

This method differs somewhat in the details of the after-treatment from the plan adopted by Sir Joseph Lister, who always kept the limb immobilised in a Gooch's splint for at least six weeks, and did not attempt passive movement till the expiration of that period, or allow any active movements to be made till after eight weeks. Emphasis must also be laid on

the importance of not allowing any strong or irritating antiseptics to touch the surface of the synovial membrane for fear of lighting up synovitis.

Mr. Treves (*London Hospital*) considers it most desirable that bony union of the fragments should be obtained if possible, and is strongly of opinion that such is sometimes obtainable by simple apposition of the fragments. Wiring by the open method is scarcely the right plan of treatment in his estimation; and when only one wire is inserted, with no special precautions to place it centrally, "it is distinctly bad." Failing bony union, firm fibrous tissue has given excellent results in his cases.

Two chief methods of treatment are adopted, according to whether the case is deemed a simple or difficult one. In the *simpler* cases, where there is but little separation of the fragments or intra-articular effusion, the plan usually followed is that recommended of old by Sir Astley Cooper. The limb is placed on a straight back splint, and slightly raised above the horizontal position. Strips of wet bandage are now tied round the limb above and below the fragments, sufficient tension being employed to fix them without interfering with the circulation. The lateral portions of these strips are then united by crosspieces, and thus very fair apposition is obtained. Care must be taken to prevent the skin from becoming chafed or irritated, otherwise troublesome ulceration may ensue. The patient is left in bed for eight weeks with this apparatus applied, and is then allowed to get up, the limb being kept for two or three months in a "patella iron," or kneecap with an iron support in the posterior wall. In *more serious* cases, where the fragments are much separated and the joint distended with blood, Mr. Treves uses a modification of Malgaigne's hooks. The skin overlying the joint is thoroughly purified, and the outlines of the bony fragments marked out with precision by means of an aniline pencil, so that the median line of the bone can be accurately estimated. Four tenotome punctures are then made, extending down to the bone, two above and two below the line of fracture. The upper incisions usually tap the extravasated blood, a considerable amount of which can be got rid of through the openings.

The hooks, previously sterilised by boiling and immersion in carbolic lotion, are then applied through these incisions, which are equally placed on either side of the middle line; they are inserted into the bone and screwed up so as to appose the fragments. The limb is placed on a back splint, and tapes attached to the hooks are passed round both limb and splint, so as to limit the tendency to tilting backwards of the fragments, which not uncommonly occurs. No anæsthetic is required, and the wound is covered with iodoform and left exposed to the open air. The hooks are removed at the end of six weeks and a patella iron applied, the patient being allowed to get about in another fortnight. Although this plan has been adopted in more than a hundred cases, no bad result has ever followed; there has been no rise of temperature, no suppuration, and no permanent injury inflicted on the bone. In *very old patients* with defective nutrition, in whom prolonged maintenance of the recumbent position is unadvisable, the knee is encased in a patella iron, and the patient allowed to get about at once. In no case is an icebag used in Mr. Treves's practice later than twelve hours after the accident, as it can then do no good, and may considerably hinder the absorption of the blood clot.

Mr. Owen (*St. Mary's Hospital*) almost always adopts the plan of circumferential suture, originally suggested by Dr. Herbert Butcher of the Birkenhead Hospital. The patient is put to bed with his leg on a back splint, and the joint is antiseptically tapped, so as to empty it of all effused blood and synovia. This tapping is done under ice and salt. The patient is subsequently anæsthetised, and if necessary the tapping is repeated, so as to complete the evacuation of the blood. The surface being thoroughly scrubbed and purified, a large curved hernia needle is introduced on the outer side of the joint, and passed round the upper border of the patella through the insertion of the quadriceps and out through the skin on the side opposite to that at which it had entered. It is then armed with a strong aseptic silk ligature and withdrawn. In a somewhat similar manner, the ligature is then introduced again under the skin through the point of its exit, passed through the ligamentum patellæ, and out at the original point of entrance. The ligature is then, securely

knotted, and the fragments are thus apposed and firmly approximated. The ligature is cut short, and the external wound closed. During this procedure the joint is almost always opened by the needle, as evidenced by the escape of dark clotted blood, similar in character to that which escaped on tapping. The limb is at once put up in lateral splints of plaster of Paris, and absolute immobilisation by this means is maintained for four months, when the joint is gradually loosened, and by the end of six months firm fibrous or bony union is secured. For all practical purposes, a short, thick fibrous union is considered by Mr. Owen to answer as well as bone.

Mr. Henry Morris (*Middlesex Hospital*) and most of the other surgeons of that institution make use of the method known as the Middlesex plan of treatment. A large piece of moleskin plaster is applied to the front and sides of the extensor surface of the thigh, extending half-way up the groin, and terminating below in two lateral elongated ends or tags, to which traction is applied by means of an elastic accumulator. The limb is placed on a back splint with a footpiece, and the accumulator tightened by tying the two ends below the footpiece. This apparatus can be readily adjusted, and the elastic extension increased as required. An ice-bag is also placed over the knee, so as to assist in the absorption of the effused blood or synovia, if requisite; and if not rapidly absorbed, the fluid is removed by aspiration. The patient is kept in bed for six weeks with the limb thus immobilised, and at the expiration of this interval he is allowed to get about in a splint of plaster of Paris for a fortnight. Then an apparatus, known as the Middlesex splint, is supplied, and may be worn with advantage and comfort for a year or more. It consists of thigh and leg pieces made of leather, united by light lateral steel bars, which are hinged opposite the plane of the joint. The hinge is a circular one, and arranged with a shoulder or stop, so that the amount of mobility may be increased from time to time by filing away the stop. At first only a limited movement is permitted, but by degrees, often very rapid, dependent upon the wish and habits of the patient, full flexion is attained. A piece of strong elastic webbing reaches across

the anterior aspect of the joint between the thigh and leg parts of the splint, so as to assist in the restoration of the limb to the extended position after flexion, as also to maintain a certain amount of support to the fragments. By means of this splint, protection is also complete against forcible flexion and refracture. An illustration of this admirable contrivance is given in the fourth edition of Mr. Bryant's "Surgery" (page 457, fig. 523A); it is made by Hawkesley of Oxford Street. Mr. Morris states that the results gained by this means of treatment are excellent, and that it is quite an exception to get any subsequent separation of the fragments. In his estimation all methods involving suturing of the bones or opening of the joint are unnecessary, and the latter plan distinctly unjustifiable as applied to recent fractures.

Mr. Bernard Pitts (*St. Thomas's Hospital*) considers that the open operation of wiring the fragments together in the Listerian fashion is superior to any other. It should not, however, be undertaken as a routine proceeding, but 'only when the patient expresses his willingness to undergo it, after the slight element of risk has been explained to him. All methods of subcutaneous suture are considered to be utterly worthless, since none of them can deal with any intervening portions of aponeurosis, which constitute, in Mr. Pitts's opinion, an almost insuperable barrier to osseous union unless they are removed. When admitted to hospital, the patient is placed in bed with the limb supported on a back splint, and an ice-bag applied to the joint so as to limit effusion or assist in its absorption. Aspiration is undertaken where the joint is much distended. If operation is refused, the fragments are drawn together by strapping, and the limb immobilised in plaster of Paris splints, which are retained in position until the fracture is apparently consolidated. A leather support is then applied, and worn for a period varying from six to twelve months. If the patient is young and healthy, and expresses his willingness to undergo operation, this is undertaken at the end of a week or two. A median incision is made, the joint opened and cleared of clots and synovia by flushing it out with sterilised water, and finally with a little sublimate lotion (1 in 2,000). One median silver wire stitch is all that is needed ;

and the joint is subsequently drained through a counter-opening made in some convenient situation. The limb is fixed in plaster of Paris splints till the wound is soundly healed, and no attempts made at passive movement. The patient is allowed to gradually regain the use of his limb, the functions of which are probably fully restored in three to four months.

Mr. Barker (*University College Hospital*) treats the great majority of his cases by a special method of subcutaneous suture, in which the stitch is passed antero-posteriorly around the fragments. The technique of the operation is as follows:—The skin over the knee having been rendered aseptic, the lower fragment of the patella is steadied by the thumb and forefinger of the operator. A long narrow-bladed knife is now thrust edge upwards into the joint exactly in the median line of the ligamentum patellæ, the skin incision being slightly enlarged as the knife is withdrawn. Through the opening thus made a considerable amount of the exuded blood and synovia is expressed, whilst a stout-handled pedicle needle is thrust into the joint and pushed upwards behind both fragments through the quadriceps tendon in the middle line, as close to the upper border of the bone as possible. When the point of the needle is seen under the skin, the latter is drawn upwards and a small incision made, so as to allow it to be protruded. The point is now threaded with sterilised silver wire and withdrawn, carrying the wire behind both fragments and, of course, within the joint. The same needle, again unarmed, is then passed from below upwards through the same incisions, but this time in front of the fragments; and by its means the upper end of the wire is drawn through the lower opening. The fragments of bone are thus surrounded; and, having been closely approximated by pressure and rubbing, the ends of the suture are drawn downwards firmly and twisted together, the knot lying over the lower end of the patella. The wounds are, of course, treated antiseptically throughout, and the limb placed on a straight back splint. Passive movement is commenced at the end of eight or ten days, the splint being discontinued whilst the patient is in bed. At the end of five weeks the patient is able to walk firmly without apparatus.

The above-described methods of dealing with fracture of patella, which might be multiplied indefinitely by comparing the practice of other surgeons, will suffice to indicate the great difference of opinion which exists on the subject. For practical purposes they may be grouped under three headings:—(a) Those in which apposition is effected by mechanical appliances alone with no breach of surface; (b) those in which some subcutaneous operation or method of suturing is adopted; and (c) the open method of wiring. The results gained in all appear to be satisfactory, provided that sufficient time is given to enable the fibrous tissue, which forms the bond of union in most of the cases where operation is not undertaken, to consolidate. In the first group of methods at least twelve months must be allowed for this to occur; in the second group the period of treatment varies from two to twelve months; whilst by the open operation a successful issue is usually attained in six or eight weeks. In cases where the skin is incised and the articulation opened a certain element of risk is always introduced; and, before deciding on such treatment, this must not be overlooked. If the patient can afford the time, there is really no need to expose him even to the slight risk of a subcutaneous or open operation; although, in discussing this subject, it should be remembered that bad results are met with even when no operation is undertaken, leaving the patient with a weak and practically useless limb. Where, however, time is of value, as is the case with the majority of working men, it is usually desirable to expedite matters by surgical interference. One fails, however, to realise the advantage of the subcutaneous methods, seeing that they also are not devoid of risk; and if it is justifiable to incur any risk, that method should be adopted which promises the maximum of benefit from it. In the hands of those who are well versed in the minutiae of antiseptic surgery, there is really no more danger from the open operation than from those so-called "subcutaneous" plans which almost all involve puncture of the joint, whilst the results attained by wiring are more certain, and, without doubt, effected with much less sacrifice of time.

ALBERT CARLESS,

The Month.

"Quidquid agunt homines."

WITH the forthcoming (July) number THE PRACTITIONER in its new form enters on the second half-year of its existence. Month by month it has been received by the profession with signs of increasing favour, and the value of its contents is testified to in a most practical manner by the frequency with which they are reproduced in the foreign and colonial medical press. I am therefore encouraged to believe that I have succeeded fairly well in my object of giving in a small compass and in readable form a large amount of matter interesting to practitioners and likely to be helpful to them in their professional work. With the view of still more adequately meeting the wants of medical readers, it has been decided to enlarge THE PRACTITIONER by eight pages. This additional space will be devoted to periodical reviews of the progress made in every department of medicine and surgery. These reviews will be written by authorities whose names are a sufficient guarantee of their special competence for the work. The articles will not be mere records of facts, but judicial appreciations of the scientific value of the work done here and abroad, and of its bearing on medical practice.

Another feature, which as far as I am aware is new in the medical journalism of this country, is the series of articles entitled "Comparative Studies," in which the methods of treatment used in common forms of medical or surgical disease or injury by physicians and surgeons of large experience are described and compared. In this way the practitioner has the outcome of an enormous collective experience placed before him in the way most likely to enable him to appreciate the value of the several methods, and to guide him in the selection of a plan of treatment for the cases he may himself meet with.

During the past month the profession has had to deplore the loss of two of its most prominent members. Both as a practitioner and as a teacher Mr. Arthur Durham exemplified the practical genius of English surgery in its best form. He was a first-rate surgeon and a thorough good fellow, a title which he himself would probably have valued as much as the warmest praise of his professional skill. He had troops of friends, who sincerely mourn his death as a personal loss.

The death of Sir George Buchanan has removed from among us one who, in the truest sense, deserved better of his country than most of the statesmen, warriors, and other "men of light and leading" (to use the phrase which Lord Beaconsfield borrowed from Burke) who have adorned the long and brilliant reign of Queen Victoria. To Buchanan, more probably than to any other single man, is it owing that the Gospel of Health has found such wide acceptance in this country. The value of his scientific work can hardly be overestimated; and he was highly successful as an administrator. He was most popular with all his staff, as a man so genial, so genuine, and so far removed from petty jealousy could not fail to be. I saw much of Buchanan at the time of the London Congress of Hygiene and Demography, and I can never forget his kindness and helpfulness. There was nothing of official formalism about him; indeed, one of the great charms of the man was his utter lack of conventionality.

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The whole medical profession will hear with deep regret that Sir John Simon has been compelled to resign his seat on the General Medical Council owing to failing health. It will be very difficult to fill his place, but in Dr. Thorne Thorne the best possible substitute has been found. On Sir John Simon's work as one of the pioneers, or rather creators, of State medicine in this country there is no need to dwell; it is known to all the world. In looking at the organisation of the sanitary administration of England he might justly say, in the words of Christopher Wren's epitaph in St. Paul's,

"*Si monumentum quæris, circumspice.*" All who have read Sir John's admirable Public Health Reports and his classical work, "English Sanitary Institutions," will hope that he will be able in his retirement to do some more work with the pen, which he wields with a skill and grace rare even among professional writers.

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From a dramatic point of view, I congratulate Dr. Champneys on his successful appearance in the part of Ajax defying the lightning of the General Medical Council. As regards the policy and expediency of the attitude of the President of the Obstetrical Society on this matter of the midwives I am more doubtful. It will be interesting, however, to see how the Olympians of 299 Oxford Street deal with the revolting obstetricians. Logically, of course, the General Medical Council is bound, if the offenders persist in their contumacy, to exercise the powers vested in it by the Legislature; but, fortunately, we are not a logical people, and I cannot believe that either party will be so ill-advised as to push the matter to extremities. It would hardly be an edifying thing to see the General Medical Council pronounce sentence of excommunication on men who have not only themselves always worn the white flower of a blameless professional life, but have ever striven to maintain a high standard of honour among their brethren. On the other hand, the General Medical Council would cease to be a terror to professional evil-doers if any condemnation it felt called upon to pronounce could be explained away as having only a Pickwickian sense. By the exercise of a little tact on both sides a way of escape from a difficult situation may still be found.

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Probably no section of the British public has watched the course of the "little war" on the North-Western frontier of our Indian Empire with greater interest than the medical profession, for the real hero of Chitral is undoubtedly Surgeon-Major George Scott Robertson. That officer, who is now about

forty-two years of age, was a student of the Westminster Hospital, and, after qualifying, entered the Indian Medical Service (Bengal Army). He was, I believe, the first European who explored Kafiristan, and he has proved himself to be a man of dauntless courage and infinite resource, with a special capacity for dealing with the half-savage tribesmen of the frontier.

By the way, what did the Duke of Cambridge mean by speaking of Surgeon-Major Robertson as "that brave *civilian*"? Though at present he is, like a great many other military officers in India, in civil employ, he is no more a civilian than Colonel Kelly, General Low, or, for that matter, His Royal Highness the Commander-in-Chief himself. It is this kind of thing that irritates the medical officers of the army. When it is a question of duty or discipline they are treated as soldiers in the strictest sense; but when it is a question of rank, privilege, or recognition of services rendered, they are "only doctors," "civilians," or, in the polite phrase of Lord Wolseley (one of whose brothers was an army medical officer), "camp followers."

Another hero whose name will always be associated with the siege of Chitral is Surgeon-Captain Whitchurch, who carried the mortally wounded Captain Baird into the fort, fighting his way as he went. Poor Baird, before he died, begged Surgeon-Major Robertson to report Whitchurch's heroism to the proper authorities, and there can be no doubt that he has deserved the Victoria Cross, which is especially intended "for valour" displayed in the saving of life. I hope that when, in a future edition of Mr. Andrew Lang's "True Story Book," the stirring tale of Chitral is told for the edification of British youth, Surgeon-Captain Whitchurch's splendid heroism will not be forgotten. I think it worth while to mention this because in Mr. Rider Haggard's account of the defence of Rorke's Drift, published in the "True [?] Story Book" aforesaid, the name of Brigade-Surgeon Reynolds, who won special promotion as well as the V.C. there, is conspicuous by its absence.

Surgeon-Captain Harry Frederick Whitechurch was a student of St. Bartholomew's, and, after qualifying (in 1887), entered the Indian Medical Service (Bengal Army). He was prizeman in pathology at Netley. I have tried to get some particulars of his career at "Bart.'s," but am informed that he "left no mark there." Well, he has at any rate left a mark on "our rough island story," and his further career will be watched with interest by his professional brethren.

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Paris, like London, seems to be suffering from a plethora of medical societies, and the result is the same in both cases—work is scattered about among the various bodies, so that many of them get only what our homœopathic friends, I believe, call "high-fractional" doses. According to the *Journal de Médecine*, the members of the Académie de Médecine at their meeting on April 16th, after transacting some purely formal business, had, figuratively speaking, to sheathe their swords for lack of argument, there being no communications to discuss.

The remedy suggested is one that has more than once been insisted on in these columns as the best solution of the difficulty in our own case. That remedy is, in one word, Amalgamation. In this way, it is pointed out by my French contemporary, the present undesirable competition between a number of societies professing to exist for the same purpose would be avoided, and combination would make them stronger and more productive. Unless an amalgamation can be effected it is predicted that some of the existing Paris societies must necessarily die of inanition at no very distant date. It needs no prophetic soul to see that a similar fate must sooner or later overtake some at least of our own societies unless they submit to being rejuvenated by being thrown into the Medea's cauldron of amalgamation. Indeed, there is already about more than one of them something of that "general flavour of mild decay" which preceded the final collapse of the "wonderful one-hoss shay" sung by Oliver Wendell Holmes. If all these scattered molecules were gathered up into one organic

whole by unification, we should not only have a far more efficient machinery for the development of medical science, but a powerful organisation for the suppression of error and the enlightenment of the public mind.

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For the sake of all concerned, it is essential that all examinations for life assurance should be conducted in accordance with the most advanced scientific opinion. Too pedantic an adherence to rules founded on medical doctrines which later experience has shown to be less universal in their application than was formerly believed to be the case will lead to the rejection of many lives which in the light of modern knowledge might be accepted with a little loading. A fair estimate of the increased risk in cases of functional albuminuria, transient glycosuria, certain forms of valvular incompetence, etc., involves some of the most important problems in practical medicine.

For the settlement of these and other cognate questions we must look particularly to the Life Assurance Medical Officers' Association, which was established in 1893, and which, under the presidency of Dr. J. E. Pollock, gives proof of a vigorous vitality that promises well for the future. As an excellent example of the kind of work which may be expected from the Association, I may refer to a paper on "Some Medical Points of Difference between Life Assurance in the United States of America and in England," which was read at a recent meeting by the secretary, Dr. T. Glover Lyon, and discussed by Drs. Pollock, Theodore Williams, Vivian Poore, and other recognised authorities. Every medical practitioner who undertakes professional work for life assurance offices would find it to his advantage to join the Association.

In connection with this subject I may mention that a fourth edition of that excellent guide for medical officers and medical referees of assurance companies, the "Medical Handbook of Life Assurance," by Dr. J. E. Pollock and Mr. James Chisholm (Cassell & Co.), has just appeared. The work, which

has been thoroughly revised and brought up to date, contains just what practitioners who have to examine candidates for life assurance want to know, and the information is conveyed in the clearest and briefest manner. The excellent arrangement of the book makes reference to any particular point very easy. A somewhat larger and more elaborate work of the same kind is "How to Examine for Life Insurance," by Dr. John M. Keating (Philadelphia: W. B. Saunders; London: F. J. Rebman), of which a third edition was published in 1894. The examination of patients, the tests for secretions, etc., are very clearly and fully described. This book also contains a large amount of information as to American systems of assurance, with the rules of the leading companies in the United States.

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The Festival Dinner of the Royal Medical Benevolent College, Epsom, which took place on May 15th, Mr. Arthur Balfour in the chair, was a great success, and resulted in a substantial addition to the funds at the disposal of the Governing Body. It must not be supposed, however, that no more money is needed. A great deal has already been done by the Governing Body to put the institution on a sounder financial basis, and to make the school thoroughly efficient as a place of education, but further improvements are in contemplation. I have received the following interesting sketch of what has been done, and what it is intended to do, from a member of the Governing Body:—

"The successes of the pupils of the College and the growing repute of the school brought so many applications for admission from all classes that the demand could not be met. An amended Act of Parliament was obtained in July, 1894, giving powers to the Governing Body to admit sons of others than sons of medical men, but reserving to the medical profession the Foundation Scholarships, the election to which is by the vote of the governors; and also assuring to the sons of medical men a first-rate education at a very moderate cost, and enabling the Council to close the Asylum for the Aged

Pensioners, and apportioning to those non-resident an augmented annuity in lieu of residence, it being understood that those already in residence should not be disturbed. In consequence of the benefaction received under the will of the late Dr. Bowen, of Melbourne, and relying on the continued support of subscribers, the Council have determined that all non-resident pensioners should have augmented annuities in lieu of rooms in the Asylum. This augmentation of annuities will take place after July of this year. Some of the present pensioners desire to retain the rooms in the Asylum, where they have resided for many years; and these will not be interfered with. Their average age is seventy-five. As soon as the pensioners have no longer any claim upon the Asylum, it will be converted to school uses, at a rental to assist the charitable part of the work for annuitants and Foundation scholars.

“It is hoped that by the admission of boys of all classes of society augmented receipts may accrue to the school, which eventually will make more secure the position of the pensioners and Foundation scholars; and even end in enlarging the charitable work of the institution. The main desire of the Governing Body has been to give the utmost possible benefit to the pensioners and Foundation scholars; to make their position as secure as possible; to give to the sons of medical men a first-rate education at as small a cost as is compatible with efficiency, mental and physical; and to attract the sons of others than medical men, who may aid in making the general education of the College as wide and as good as is possible.

“The Council now ask for aid to carry out the work they have thus far successfully accomplished; and they seek for support in the undertaking they have embarked upon of building a Junior or Lower School for one hundred boys; enlarging the chapel, which is even now absolutely necessary; and erecting a laundry, which is greatly needed as a matter of economy, and also as a defence from the possibility of introduction of disease from without.”

I need only add that I heartily endorse this appeal; and I hope it will be satisfactorily responded to by the profession, which may well be proud of Epsom College.

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It is with peculiar satisfaction that I record the establishment of a Bacteriological Institute in Leicester. In Germany, Italy, and France nearly every town of any importance has such an institute; in America there are several, and the large cities in the United States are vying with each other in providing their Boards of Health with bacteriological laboratories. Even Spain and Portugal show signs of feeling the influence of the scientific *Zeitgeist*. In this great country which was so long in the forefront of medical progress we are still most inadequately provided with bacteriological laboratories. The Leicester Bacteriological Institute, with a prospectus of which I have been favoured by the Director, has been formed with a view to provide medical men in the Midlands an opportunity for carrying on original research in connection with the etiology of disease. The objects of the institute are stated to be:—

1. To investigate the means for preventing and curing the various infectious and other diseases, and to provide a place where original research work may be carried on for this purpose.

2. To provide instruction to medical men and advanced students in bacteriology.

3. For the diagnosis of disease by means of bacteriological and other processes.

4. To prepare, supply, and test any protective or curative material.

A laboratory has been provided and fitted up by Messrs. John Richardson & Co., Leicester, Limited, and placed under the control of a council appointed by the Leicester Medical Society. The council consists of the following gentlemen:—
Chairman: C. H. Marriott, M.D., F.R.C.S. *Director and Secretary of the Laboratory*: J. Andrew Turner, M.B., D.P.H. *Members of the Council*: C. J. Bond, F.R.C.S.; F. H. Hodges, F.R.C.S. (*President Leicester Medical Society*); G. C. Franklin,

F.R.C.S. ; R. Pratt, M.D. ; C. Douglas, F.R.C.S. ; H. Meadows, M.B. *Hon. Treasurer* : H. N. B. Richardson, B.A., F.C.S. *Hon. Secretary* : F. M. Pope, B.A., M.B.

The Laboratory has been licensed under Act 39-40 Vic., ch. 77, and classes will be held, consisting of a Course of Lectures, during the winter session. The staff of the laboratory undertake bacteriological and microscopical examinations of discharges or morbid growths. I congratulate all concerned on the establishment, under such favourable auspices, of an institute which cannot fail to render most useful service to humanity and to scientific progress. It is to be hoped that other towns will follow the example of Leicester.

Public Health.

DEATH-RATES.

WITH regard to statistics in general, there are to be noted in the popular mind two comfortable convictions—first, that they are dry; and secondly, that they can be made to prove anything. Dryness is a matter of taste about which it would be unprofitable to dispute; but there is something to be said upon the other count. A fairer way of stating the charge of pliability is the well-known paradox that “there is nothing so deceptive as figures, except facts.” It does not need any very extended experience of courts of law to realise how misleading the latter may be. Statistics are, in truth, only condensed statements of facts, and it is only when they are incomplete or imperfectly stated that they are misleading in any real sense. They may be misunderstood or advanced for more than they are worth, but so may any other item of human knowledge. Take, for instance, that fertile garden of fallacies, the anti-vaccination propaganda. Which is the more misleading *suggestio falsi*, the description of cases of illness in vaccinated children, which we are invited to attribute (without proof) to the antecedent vaccination, or the statistical fact that the majority of cases of smallpox occur in vaccinated persons? The latter would not for a moment deceive anyone accustomed to handling figures. He would at once ask whether the numbers concerned were at all equal, and would find, of course, that the unvaccinated were comparatively few in number, and that when allowance was made for this the incidence of attack was enormously greater upon the unvaccinated. Far more people die in London than in Dublin, and more of the Smiths than of the Montmorencies; but it does not follow that Smith of London has a less chance of life than his neighbours. It is simply that he lives and dies in larger numbers.

It is on record that a sanitary inspector, under stress of examination, defined a death-rate as a rate levied upon the inhabitants at large for the maintenance of cemeteries, a piece of unconscious humour which was no doubt due to a momentary confusion of *death-rate* with *burial-rate*, quite pardonable under the circumstances. It is a rate which is not always

stated quite candidly, and which indeed it is difficult to free from ambiguities, simple as it may appear. A watering-place which is able to announce that its death-rate is only 10 per thousand per annum makes thereby a strong appeal to the popular prejudice in favour of longevity. Those of us who wish to make our days as long as possible in the land are tempted to conduct the all-important experiment in such a favourable climate, for we seem to die much faster than that elsewhere. In all probability the claim to an exceptionally low death-rate would prove on the most careful scrutiny to be well founded; but viewed through statistical spectacles, there is a suggestive reticence about the bare announcement. When and for how long was the mortality so low? Were all deaths occurring in the district taken into account, or were those of visitors excluded? In the latter event, what precaution was taken to restore the balance by including the deaths of residents dying elsewhere? Is it simply the lowest rate that has been observed in the locality in recent years? And if so, what is the average death-rate for ten years, and what has been the highest? These are elementary and obvious questions; but there are others of a different character, such as the constitution of the population, which ought not to be lost sight of. The tendency to death is very unequal at different ages. It is greatest at the extremes of life; and no one would think of comparing the death-rate in a foundling hospital, or in a workhouse filled with aged persons, with that of the army or navy, where there are no infants or old people. In towns generally the composition of the population is favourable to low death-rates, in the sense that there is a larger proportion of persons at ages when the natural tendency to death is low than in country districts or in the kingdom at large. Local healthiness, or the reverse, is therefore not the only factor that determines the ratio of deaths to population. In watering-places, as a rule, the age-distribution is a very favourable one; and the sex-distribution too, for the female death-rate is normally lower than the male. These considerations, of course, apply more or less to all districts; and it is becoming the practice, where accuracy is desired, to state not only the "crude" or gross death-rate, but also the "corrected" death-rate, after making allowance for local peculiarities in age- and sex-distribution. The census affords the necessary materials for the purpose, and the composition of the population of England and Wales is taken as the standard.

Deaths in public institutions, such as hospitals, asylums, and workhouses, are very often overlooked in calculating local death-rates. They are registered in the sub-district in

which the institution is situated, and not necessarily in that to which the deceased properly belonged. It is nobody's business to forward these items to distant local authorities, in whose statistics they ought to appear, and the zeal of the latter for complete accuracy does not always extend to a financial arrangement with the registrar of the districts in which are situated the institutions frequented by those of their citizens who have come to grief in mind, body, or estate. Take, for example, the case of a town, X, which has a work-house, asylum, and one or two hospitals, all of which receive inmates from other towns and villages for miles around. It would be misleading to include all the deaths occurring in these institutions in the death-rate of X itself. They are probably not heard of in the outlying districts to which they properly belong; and quite commonly they never get included in any death-rate at all, except that which the Registrar-General calculates for the whole kingdom.

The death-rate of a large town is, in one sense, an average result: true as regards the town as a whole, but not necessarily true for any particular part of it. St. George's-in-the-East can say, equally with Hampstead, that "we" had in 1894 a death-rate of 17·4, because that was the London death-rate, to which both contributed their quota. But when we come to inquire into our respective local rates, there is a vast difference between 10·2 in Hampstead and 26·4 in St. George's-in-the-East; and no doubt still further localisation would yield still wider discrepancies. Here we have to recognise a further weighting of the scales in favour of watering-places and health-resorts in the matter of crude death-rates. Although not altogether free from slums and poverty, they certainly do not share equally with other towns in those respects. There is more of the Hampstead than of the St. George's-in-the-East element about them; and, as a mere matter of death-rates, there is little to tempt the Hampsteadian away from home. It is the Saint-Georgian who ought to go, but he is less able to afford it.

A local death-rate, and still more a county or national death-rate, shows the average tendency to death among a heterogeneous collection of individuals, including all sorts and conditions of men, all ages and both sexes, engaged in healthy and unhealthy occupations, or in no occupation at all. It can be resolved into a multitude of component death-rates, some high and some low—for instance, by sifting out the statistics of persons living and persons dying at different ages, or of different classes, or in different occupations, or according to residence in wealthy suburbs or in crowded slums. In a watering-place, as in Mayfair, much of this sifting is already

done; and the partial exclusion of the masses, as well as the longevity of the classes, may have something to do with the lowness of many a satisfactory local death-rate. We should come much nearer to the mark, and be far better able to compare one town with another, if it were possible to state the death-rate for each age and class and locality. This degree of refinement is outside the range of practical statistics, and is likely to remain so; but, at all events, we need not lose sight of the fact that our individual chances of life and death are so largely governed by circumstances of age, calling, habits and surroundings as to be not very helpfully defined by averages in which these factors are ignored, and in which we are mixed up indiscriminately with young and old, rich and poor. A professional man, in considering the *pros* and *cons* of settling in a new field of work, would not be much concerned with the average of all incomes in that locality, from the bishop's to the crossing sweeper's. He would estimate the probabilities in his own case with due regard to his profession, and to his own ability and standing therein, leaving the bishop and the crossing-sweeper and the averages to take care of themselves. So it is also, to a certain extent, with death-rates. The high infant mortality of Leicester need not deter a healthy bachelor from settling there, although it swells the general death-rate of the population of which he would be a unit.

There is still another sense in which a death-rate is an average—namely, in regard to time. The mortality in every town varies with season and with epidemics of infectious diseases; and there are purely accidental fluctuations which are relatively most conspicuous in small statistics, but tend to average themselves out if sufficiently large populations and sufficiently long periods are taken. Weekly, monthly, and even quarterly rates vary with season, in a manner which can in some degree be predicted with confidence. The death-rate for a whole year is the mean of these components, but is itself far more constant in successive years, owing to climatic irregularities and the presence or absence of fatal epidemics. Hence the value of decennial rates, especially in regard to small populations in which the accidental perturbations in merely annual rates are relatively greatest. If the death-rate for a limited period is below the average of the longer period of which it forms a part, there must of necessity be at other times a corresponding deviation in the opposite direction; and it is misleading to cite the brief record as a sample of the usual health condition of the locality.

Probably most people think of local death-rates as supplying some sort of gauge or index of the external conditions

affecting the public health; and correctly so, if we can sufficiently eliminate the many sources of error. To bring this to a sharper focus, it is usual and proper to attach special importance to those causes of death which are regarded as preventable. The gross death-rate of a community or a class includes all manner of different items, differing widely in their etiology and in their public health significance; and analysis is needed here just as much as in regard to the composition of the population. These items may yield indications which are lost in the crude totals. Thus a high rate from phthisis or from other respiratory diseases may point to unhealthy occupations, or to dampness of soil, and a high rate from enteric fever to contamination of water or milk, or to faulty drainage, even if the total death-rate does not deviate notably from accepted standards. The infectious diseases are regarded, and with reason, as belonging to the preventable class, but the means of prevention are not the same for all. The zymotic death-rate has not such a wide range as its name would imply, for it is customary to take into account only the seven (or rather nine) "principal zymotic diseases": smallpox, measles, scarlet fever, diphtheria, whooping cough, diarrhoea, and "fever" (enteric, simple, continued, and typhus). In this sense influenza does not affect the "zymotic death-rate"; nor would plague or yellow fever if it broke out in England. So far as the prevalence of these diseases is dependent upon local conditions, their etiology is very different; and here again, in stating such a total as a zymotic rate, we find ourselves adding together or averaging unlike quantities. If drainage, water, and milk are concerned in the causation of enteric fever or diphtheria, no such relation has been made out for smallpox or measles. If conditions of food and soil have to do with prevalence of diarrhoea, it is not so with whooping cough. Among the zymotic diseases are some which are almost inevitable where large numbers of children are aggregated under urban conditions, some of which are largely influenced by school surroundings, and one which is dependent upon neglect of vaccination. We must needs take a broad view indeed of sanitary conditions if we are to regard them as always the dominant causes of these inconstant and dissimilar results.

There are populations and populations, deaths and deaths, causes and causes. Casual samples may not fairly represent the bulk; and the lessons to be learned from mortality statistics are by no means exhausted when we have ascertained what ratio the deaths from all causes bear to the population of all kinds, even if the period of observation be defined and adequate and the data complete.

A Medico-Literary Causerie.

DEGENERATION.

CARLYLE, in his "Latter-Day Pamphlets," describes a visit which he once paid to a model prison where were confined "twelve hundred scoundrels." On most of these the mark of the beast was written plain enough for all men to see—"miserable distorted blockheads, the generality; ape-faces, imp-faces, angry dog-faces, heavy sullen ox-faces; degraded underfoot perverse creatures, sons of *indocility*, greedy mutinous darkness, and, in one word, of *STUPIDITY*, which is the general mother of such." Carlyle in this passage shows himself a forerunner of Lombroso and the modern school of criminal anthropologists who have so laboriously investigated the peculiarities of bodily conformation, or *stigmata*, whereby the criminal and the degenerate may be known. There can be no doubt that the idea which lies at the bottom of Lombroso's observations—viz. that mental and moral characteristics are determined by physical structure—has a solid basis of scientific fact; but it is obvious that the practical application of this theory is beset with innumerable fallacies. Lombroso's method, though sound in principle, easily lends itself to cheap ridicule, and it can hardly be denied that for this he is himself largely responsible. So much importance does he appear to attach to comparatively trifling physical defects and abnormalities, and so sweeping are the conclusions which he draws from inadequate statistical premisses, that, if closely examined, relatively few would be found absolutely free from any stigma of criminality or degeneracy. On the other hand, criminals of the worst kind may present no physical abnormality whatever.

To Lombroso, as to many other alienists, the slightest deviation from a more or less arbitrary standard of mental health is suspicious. He is therefore in logical accord with his own premisses, though hardly perhaps with common-sense, in his contention that genius is a degenerative psychosis. Dryden had already given expression to the opinion that—

"Great wits are sure to madness near allied."

Lombroso goes further, and would have us believe that great wits are actually mad—even though it be only "north-north-

west," like Hamlet. Perhaps Lombroso might object to this statement of his teaching without the introduction of a few saving clauses, but it is certainly the impression which is conveyed by his writings. The foundation of fact on which his theory that genius is a form of insanity is based is so weak that it is astonishing that a mind trained to scientific reasoning could for a moment think it adequate. His "Man of Genius" has not unjustly been described by a recent writer as "compacted of the most ancient anecdotes thrown together without selection or verification, and repeated again and again, in a contrary sense, from sheer carelessness."

It is undeniable, however, that much of what calls itself genius at the present day, and is accepted as such by the crowd, which cannot distinguish the true coinage of the brain from base intellectual metal, is, in fact, a result not of healthy development, but of degeneration. This kind of genius is, in very truth, in the words of a French writer, "a disease of the nerves;" but it no more follows that every man of genius is a madman than that every madman is a man of genius. The truth of the matter is clearly set forth by Max Nordau in his work entitled "Degeneration," which has recently made a considerable sensation. He says that in many cases the "higher degenerate" of Magnan, just as he occasionally exhibits gigantic bodily stature or the disproportionate growth of particular parts, has some mental gift exceptionally developed at the cost of the remaining faculties, which are wholly or partially atrophied. Take this away and there remains only a criminal or a madman. On the other hand, take from the sane man of genius the special capacity through which he becomes a genius, and there still remains a capable, often conspicuously intelligent, moral and judicious man. A really great poet, apart from the special gift of song, is generally a man of well-balanced mind, capable, if need be, of taking an active part in affairs. Shakespeare, as Carlyle somewhere says, had an intellect which might have governed States; Goethe was a man of the soundest judgment in practical matters, and, as Huxley points out, had a scientific equipment that would have been sufficient of itself to have won him distinction. In the mental constitution of such men not even the most fanatical alienist could detect any sign of the degeneracy and hysteria which, according to Max Nordau, are so conspicuous "in the tendencies of contemporary art and poetry, in the life of the men who write mystic, symbolic, and 'decadent' works, and the attitude taken by their admirers, in the tastes and æsthetic instincts of fashionable society."

The author, who conceals his real name under a pseudonym, but who is understood to have been resident physician in an

Austrian lunatic asylum for some years, supports his thesis with the most ingenious reasoning, and with an abundance of learning that inspires the ordinary reader with something like awe. He is equally at home in the asylum ward, the laboratory, the library, the studio, the concert-room, the church (with a fine impartiality as to nice points of theology), the boudoir, the music-hall, and the pothouse. Like Bacon, he has taken all knowledge to be his province, and he brings the whole mass of his learning, thought, and experience to bear on the question which he handles. Whether one agrees with him or not, his book is one that cannot be ignored. To medical men it is of special interest from the authoritative manner in which the author brushes aside the mere literary or artistic critic and shows that it is only the physician who can read aright the signs of the times as manifested in contemporary poetry, fiction, music and art, and interpret their true meaning. Naturally the work has been received in certain sections of the press with a storm of abuse; but, as Dr. Johnson used to say, the best proof that you have hit hard is that you are attacked in return.

As Max Nordau's teaching has been a good deal misrepresented by some of his critics, a short summary of it may not be out of place. Starting from Morel's definition of degeneracy as "a morbid deviation from an original type," he shows how, in addition to the physical characteristics—*asymmetry of the face and skull, deformity of the external ear, squint, hare-lip, irregular teeth, pointed or flat palates, webbed or supernumerary fingers, etc.*—there are mental stigmata clearly indicative of degeneracy. The *asymmetry of the face and skull* find their counterpart in the mental faculties, some of which are stunted, while others are morbidly exaggerated. That which nearly all degenerates lack is the sense of morality and of right and wrong. For them there exists no law, no decency, no modesty. In order to satisfy any momentary impulse, they commit crimes and misdemeanours with the greatest calmness and self-complacency, and cannot understand that other persons should be offended by their conduct. When this condition is very pronounced, it constitutes "moral insanity." There are, however, lower stages in which, although the degenerate may not himself commit any act that brings him into conflict with the criminal code, he yet asserts the theoretical legitimacy of crime; seeks with philosophically-sounding fustian to prove that good and evil, virtue and vice, are arbitrary distinctions; goes into raptures over evil-doers and their misdeeds; professes to discover beauties in the lowest and most repulsive things; and tries to awaken interest in, and what he calls

"comprehension" of, every bestiality. The two psychological roots of moral insanity in all its degrees of development are: first, unbounded egoism; and secondly, inability to resist any sudden impulse. These characteristics also constitute the chief intellectual stigmata of degenerates. Another mental stigma of degenerates is emotionalism. This morbid excitability appears to them to be a mark of superiority. They believe themselves to be possessed of a peculiar insight which mortals of more common clay lack; and they despise the vulgar herd for the dulness and narrowness of their minds. Other mental characteristics of the degenerate are melancholy and pessimism, powerlessness of the will and disinclination to action. Here again the degenerate mistakes these signs of weakness for marks of superiority; and he has no suspicion that his incapacity for action is a consequence of an inherited deficiency of brain. A cardinal mark of degeneracy is mysticism. The degenerate is also incapable of adapting himself to existing circumstances. Hysteria, which, according to Nordau, is as often found among men as among women, perhaps oftener, is characterised by disproportionate impressionability of the psychic centres, extreme susceptibility to suggestion, and inordinate egoism, leading to a morbid love of notoriety.

The manner in which the mental characteristics symptomatic of degeneracy and hysteria find expression in art and literature is elaborately worked out by Nordau. He makes pathology throw light on the otherwise perplexing phenomena of mysticism, symbolism, ego-mania (including the vagaries of Diabolists, Decadents, and *Æsthetes*, Ibsenism, etc.), and realism or naturalism, as professed by Zola and his school, in a most interesting and ingenious way; but, unfortunately, space will allow only the briefest indication of his method. In art the effects of degeneracy and hysteria show themselves in all sorts of curious mannerisms, largely due to the disorders of vision which Charcot has shown to be common in these states. The eccentric artists speak the simple truth when they say that they represent Nature exactly as they see her. The vagueness of outline and quivering mistiness of the "impressionists" are due to nystagmus; the unnatural colouring of others (of whom we have an English specimen in Mr. Aubrey Beardsley) to hysterical amblyopia. The "music of the future" is the offspring of degeneracy; and in its prophet, Richard Wagner, we are told, the stigmata of this morbid condition were united in the most complete and luxuriant development. In poetry the blunting of the impressionability of the nerves and brain characteristic of degeneracy makes the subjects sensitive only to the strongest impressions.

Hence we have some who sing of corruption, disease, criminals and prostitutes; others who hymn the praise of unnatural vice. In the drama, degeneracy reaches its clearest expression in the "malignant anti-social simpleton," Henrik Ibsen. Mysticism, as represented by the vague philanthropic, but really anti-social, maunderings of Tolstoi, is another product of degeneracy. Among the manifestations of hysteria, we should be disposed to include the spiritualistic and "borderland" delusions of Mr. W. T. Stead, the "theosophistry" of Mrs. Besant, hypnotism, and the dismal science of "spooks." In fiction degeneracy leads to works like those of Zola and the sex-maniacs who are at the present too much with us.

It may be admitted that Max Nordau, like most earnest reformers, pushes his theory too far; in fact, the "mad doctor" is somewhat too predominant throughout his book. This is seen in his characterisation of D. G. Rossetti's partiality for refrains as "echolalia," and Zola's coarseness of expression as "coprolalia."

The causes of degeneracy are said to be chiefly chronic poisoning by narcotics and the growth of large towns, leading to increase of crime and vice, and hence to nervous disease of all kinds. The prevalence of hysteria is due to the fatigue of the present generation caused by the revolution in the whole condition of life which has taken place during the last half century. Humanity has not yet been able to adapt itself fully to its new environment. Nordau is, however, no pessimist. "People will recover from their present fatigue. The feeble, the degenerate, will perish; the strong will adapt themselves to the acquisitions of civilisation, or will subordinate them to their own organic capacity. The aberrations of art have no future; they will disappear when civilised humanity shall have triumphed over its exhausted condition. The art of the twentieth century will connect itself at every point with the past, but it will have a new task to accomplish: that of introducing a stimulating variety into the uniformity of civilised life, an influence which probably science alone will be in a position to exert, many centuries later, over the great majority of mankind."

Reviews of Books.

A Handbook of Hygiene.—By A. M. DAVIES, M.R.C.S., L.S.A., D.P.H., Surgeon-Major A.M.S., late Assistant Professor of Hygiene, Army Medical School, Netley, etc. London: Charles Griffin & Co. 1895. Pp. 590. Price 12s. 6d. net.

STUDENTS of hygiene must be hard to please if they cannot find among the many rival text-books one adapted to their needs. Surgeon-Major Davies has now extended the range of their choice. The latest manual is of attractive appearance, well bound, and in the course of nearly six hundred closely-printed pages covers most of the ground usually allotted to the many-sided science of Public Health. It has the conspicuous advantages of being thorough and up to date, as would be expected from the author's reputation. Upon several matters it gives more detailed information than is to be found in any other work of its class; and, at the risk of making invidious comparisons, it may be said that the best parts are those which have to do with the more technical and purely scientific branches of the subject, such as chemical and bacteriological examinations. Other branches, scarcely less important, suffer somewhat from compression. Vital statistics, to take one prominent example, are relegated to an appendix, and then dismissed in a very few pages. The burning question of vaccination, too, is very lightly touched upon, and sanitary law is scarcely mentioned. Every writer and lecturer has his own views as to what is most essential, what needs treatment in detail, and what may with least disadvantage be omitted or curtailed. The condensation which has been thought expedient in some chapters can readily be made good from other sources, if need be, and it is but a small price to pay for the really excellent handling of the rest. Take, for instance, the first three chapters upon Air, Water, and Food, which extend to some three hundred pages, and are models of completeness. The fourth chapter, on Sewage, omits little of real practical importance, although some readers may differ from the author upon controverted points of detail, such as the merits of iron soil-pipes and 3-in. bath-wastes. Without attempting any such herculean task as a detailed discussion of the thousand and one points of scientific interest to be found in each

section, we may call attention to the valuable chapter on the Causation and Prevention of Disease, which comes near the end of the work, and contains a capital epitome of the etiology and epidemiology of the principal infectious diseases. Surgeon-Major Davies adopts boldly, and probably advisedly, the view that evolution plays an important part in the history of epidemics. Whooping-cough, by the way, ought scarcely to be included among the exanthemata (p. 483), nor is the average case-mortality of scarlet fever nowadays quite as high as 10 per cent. (p. 503). In the preface the author modestly disclaims originality, and, indeed, it must be admitted that any extensive departure from beaten tracks would be a doubtful advantage from the point of view of the majority of readers. His object has been, we are told, "to compile such a work as would in small compass contain all that was *essential*, while at the same time the form should be of the most handy and portable kind." Both author and publisher are to be congratulated upon the result.

The Student's Handbook of Forensic Medicine and Public Health.—By H. AUBREY HUSBAND, M.B., C.M., B.Sc., etc. Sixth Edition. Edinburgh: E. and S. Livingstone. 1895. Price 10s. 6d.

WHEN a text-book has reached a sixth edition it is too late for speculation as to its *raison d'être* and chances of popularity. It has already found an appreciative public and gained for itself a reputation. So it is with Husband's "Forensic Medicine." It has no pretensions to literary style, and its modest dimensions preclude any great amount of detail, but it gives briefly and in outline most of the essential points which the practitioner needs to read over now and then, for the purpose of refreshing his memory and arming himself against emergencies which may arise at any time; and it supplements these with divers *minutiæ* which the student has to possess himself of temporarily, but which later on he will ungrudgingly leave to the analytical chemist. The wonder is that so much information has been got into such a small compass. Four hundred small pages are given to Forensic Medicine, including Toxicology, and three hundred to Public Health. It is stated in the preface that the work has been carefully revised and much new matter added, but from internal evidence it would appear that the third division, that of Public Health, has scarcely had justice done to it in this respect. In many instances obsolete data are retained, sometimes without warning of their antiquity, and in others advances which are now of some years' standing, escape mention. While dealing with

sanitary law, Dr. Husband seems to have overlooked one or two important Acts, and among them both of the Local Government Acts. Hence arise some anachronisms, such as the reference to Local Boards and Rural Sanitary Authorities in a work bearing on its title-page the date 1895. Their successors, the Urban and Rural District Councils, are not even mentioned. The least exacting examiner would look for rather more information with regard to modern steam disinfecting apparatus than the bald statement that "super-heated steam under pressure has been lately suggested and advocated by Dr. H. F. Parsons. It has a greater penetrating power than hot air." Again, it is scarcely correct to say in 1895 that the four best-known chemical methods of treating sewage are the lime process, the phosphate of alumina process, the Scott process, and the A B C process. Recent experience does not bear out the view with regard to the action of potable waters upon lead pipes and cisterns that "the salt having most protective action is the sulphate, and as the ordinary hard waters, as a rule, contain earthy sulphates, we are able to use such waters with impunity." The duties of medical officers of health are very properly quoted *verbatim* from the official regulations issued by the Local Government Board, but from an old Code, which differs in some respects from that now in force; and Dr. Husband writes that "any duly qualified practitioner may be appointed provided he holds a degree or licence in Sanitary Science," without explaining that a public health diploma is not essential for appointments where the population is less than 50,000. There are many other instances of the kind which can only tend to undermine the confidence of the student in his chosen *vademecum*, and which ought to have been eliminated in a new edition.

Text-book of Diseases of the Kidneys and Urinary Organs.

—By PROF. DR. PAUL FÜRBRINGER, Director of the Friedrichshain Hospital, Berlin. Translated from the German; with Annotations, by W. H. GILBERT, M.D., Physician in Baden-Baden. In 2 vols. Vol. I., 8vo. London: H. K. Lewis. 1895. Price 7s. 6d.

Practical Urinalysis and Urinary Diagnosis.—By CHARLES W. PURDY, M.D., Professor of Urology and Urinary Diagnosis at the Chicago Post-Graduate Medical School. Philadelphia: The F. A. Davis Company. And London: F. J. Rebman. 1894. Price 14s.

THE appearance of this text-book in English dress suggests the reflection that we have in various Continental languages many

works that would well repay introduction to the medical profession of this country. We owe a deep debt of gratitude for what the Sydenham Society has already done in this direction, and to those who undertake the arduous task of translation the profession is under great obligation. Any work from the pen of the well-known Director of the Friedrichshain Hospital would at once command attention, and when this deals, as in the present case, with the subject of renal disease, on which he has been so long regarded as an authority, we feel that Dr. Gilbert has been very fortunate in his selection. The first edition of Professor Fürbringer's text-book appeared in 1884, and this volume represents a first instalment of a much later edition, and deals almost exclusively with that aspect of kidney disease which is usually regarded as medical. The general plan of the work is admirable. In the first part the author limits himself to general remarks, and discusses the causes and significance of various symptoms, such as albuminuria, dropsy, uræmia, etc. His view upon the vexed question of physiological albuminuria is represented in the statement that physicians "should not trouble themselves about small, unimportant hazes, but should only reckon with decided deposits" of albumin. He bases his classification of Bright's disease on clinical appearances, and distinguishes under diffused nephritis: (1) Acute kinds, (2) Chronic forms without decided atrophy, (3) Chronic forms with decided atrophy and genuine renal sclerosis, (4) Amyloid kidney. There is an excellent chapter on contracted kidney, dealing very fully with the symptomatology, and a shorter one on the suppurative diseases of the kidney. The book discusses at length the conflicting views on renal disease, and contains a vast amount of information within a limited space. This condensation has rendered the work of translation more difficult; and although this has been well done on the whole, we notice here and there that a desire to render a passage too literally has interfered with its smoothness. The book contains a number of good footnotes by Dr. Gilbert, and a commendatory letter from Professor Sir T. Grainger Stewart, which we should have thought was unnecessary.

Professor Purdy's work is divided into two parts. The first, which we think the better part of the two, deals in a most exhaustive way with the chemistry of the urine. The various methods of estimating, both quantitative and qualitative, are described in full detail, and in a way that leaves nothing to be desired. There is a good chapter on organic sediments, well illustrated by diagrams. The second part of the book—urinary diagnosis—aims at giving "a concise description of the special features of the urine that indicate the presence of

special pathological processes in the economy," and accordingly we have short clinical sketches of such diseases as acute diffuse nephritis, typhoid fever, rheumatism, etc. As regards the diazo reaction, the author holds that "the diagnosis of typhoid fever is now rendered almost as certain by the urine as is pulmonary tuberculosis by the sputum"—a claim much beyond what Ehrlich himself advanced. As we have indicated, we look upon the first part of the work as the more valuable, and we are certain it will prove of great service to the student and practitioner alike. A short chapter on examination of the urine for insurance purposes is well done, and affords an excellent contrast to Fürbringer's opinion on albuminuria already quoted.

Dissections Illustrated: a Graphic Handbook for Students of Human Anatomy.—By C. GORDON BRODIE, F.R.C.S., with Plates drawn and lithographed by PERCY HIGHLEY. In four parts. Part IV. London and New York: Whitaker & Co.

THIS work is worthy of note as a monument of industry and as a testimony to Mr. C. G. Brodie's skill in dissection, and also to Mr. Highley's powers of delineation; but its utility from an anatomical point of view is a matter of opinion. Its object, according to the author, is to enable students to revise their work previous to examinations, and to some extent it may be of service for this purpose. Unfortunately, students are not content to use these anatomical picture-books solely for purposes of revision, but are wont to rely upon them entirely for their knowledge of the subject, usually with disastrous results. The author further expresses a hope that these plates may be of some value to "the staid and prosperous practitioner" (why only to such we fail to comprehend) should he ever find himself in "any anatomical difficulty." Such difficulties, however, are almost invariably unforeseen and unexpected, and we doubt whether any practitioner, "staid" or otherwise, will carry about with him Mr. Brodie's somewhat cumbrous compilation in order to refer to it in cases of emergency. In the fourth part of this work, which is now before us, the anatomy of the abdomen is depicted and described. The letterpress, however, is meagre, and in some cases vague and even inaccurate. For instance, in speaking of the funicular process of the tunica vaginalis, we find it stated that "the tunica vaginalis may be cut off from the upper part of the process, and this process remain unobliterated; then the gut may descend into it and form a hernia into the funicular pouch of the peritoneum, or an *infantile hernia*." It is no part of our province to explain what is really the condition of

the funicular process in cases of infantile hernia, but the veriest tiro in anatomy will perceive the fallacy of the above statement. The only criticism we would offer on the illustrations is that their prevailing cerulean hue somewhat suggests advancing decomposition of the subject under dissection.

Notes on Medical Nursing.—By the late JAMES ANDERSON, M.D., F.R.C.P., Assistant-Physician to the London Hospital, &c. London: H. K. Lewis. Price 2s. 6d.

Text-Book of Anatomy and Physiology for Nurses.—By DIANA CLIFFORD KIMBER, Assistant-Superintendent New York City Training School, Blackwell's Island, N.Y. Macmillan & Co. Price 10s.

THE publication of these two works adds to the already large number of those which have been issued for the guidance and training of nurses. They are, however, of widely different character and value.

The former work contains a series of fifteen lectures to the nursing staff of the London Hospital delivered by the late Dr. Anderson, which have been edited by a former sister of the hospital, Miss Lamport, partly from the lecturer's private notes, and in part from notes taken down at the time of delivery by some of those who attended the course. It is also prefaced by the obituary notice of the author delivered by the late Sir Andrew Clark at the Royal College of Physicians. The book is characterised by the admirable lucidity and elegant finish which were always features of the writings and utterances of Dr. Anderson. After setting forth in the first lecture the requisites of a good medical nurse, the different physiological systems of the body are described, taking in order the digestive, circulatory, respiratory, and excretory systems, the remaining lectures being devoted to an account of the significance of careful observations on the temperature of the body, fevers, and finally the nervous system. As each subject is passed under review, a brief anatomical and physiological outline is given sufficient to explain the characters of the diseases which are mentioned, and interspersed throughout the whole are practical remarks illustrating the main duties of a nurse in the treatment of the cases. In this way, although the lectures may have been rendered more interesting, the continuity of thought is somewhat interrupted, and a certain amount of needless repetition is necessarily involved. On the whole, however, the book is well worth reading, and full of sound, practical instruction.

The second book is of a much more imposing character, although its actual value is not nearly so great. It is entirely

devoted to anatomy and physiology, and deals with the subject in a manner which suggests a somewhat extensive use of the scissors and paste-brush. We cannot believe that it is necessary for nurses to know the meaning of such terms as "anabolic" and "katabolic" as applied to protoplasm, or to be instructed in the minute anatomy of the various tissues and viscera of the body. A certain amount of information is, of course, useful and even essential; but if it becomes the fashion for nurses to be educated up to the standard represented by this book, then we fear that the partial knowledge thereby acquired will be in their hands more dangerous than absolute ignorance, and will thereby render them a hindrance rather than an assistance to the medical man. The only commendation we can give this work is that it is extremely well got up and contains an abundance of good illustrations, which have been mainly borrowed from well-known text-books on anatomy and physiology.

Infancy and Infant-Rearing.—By JOHN B. HELLIER, M.D.
Lond., Surgeon to the Hospital for Women and Children,
Leeds, and Lecturer on Diseases of Women and Children
in the Yorkshire College. London: Chas. Griffin & Co.

THIS admirable little work is devoted to the question of the maintenance of health in infants and the best means of preventing disease. It is intended, in the first place, for the use of pupil-midwives and nurses, but is couched in such simple language that it can in the main be understood by mothers; whilst it contains material that will render it useful reading for medical men, especially for those who are commencing private practice, and who, although having passed through the curriculum of our medical schools, have had little opportunity of acquiring any definite knowledge of the way to deal with the various questions always associated with the care and feeding of infants. It commences with a description of the chief peculiarities of the new-born child, of the establishment of its various functions, and its development up to two years of age. The chief difficulties and problems of infant-rearing are then discussed, and some excellent tables introduced showing that the death-rate of infants is much greater in towns than in country districts, and also indicating the chief causes of infant mortality. The effect of injudicious feeding and the importance of mothers suckling their children are especially emphasised. As illustrations of the value of this latter proceeding, the author mentions the facts that, in spite of the sufferings and starvation which occurred in the siege of Paris in 1870, the infant mortality was reduced by

about 40 per cent, although the general death-rate was doubled. The same increase in adult and diminution in infant mortality were seen during the Lancashire cotton famine, when the mothers were not at work in the mills. The subjects of natural and artificial feeding are then dealt with at length, and clear and precise instructions given as to how to prepare artificial foods. A simple method of sterilising or "pasteurising" milk is also appended, and the correct diet at different ages and under varying conditions of health distinctly indicated. The general hygiene of infancy is then discussed, the author taking in order cleanliness, ventilation, clothing and exercise. How to treat the infant immediately after its birth is also reviewed; and the importance of cleansing the eyes and keeping the umbilical cicatrix aseptic are alluded to. We are glad to see that the value of circumcision as a hygienic measure is admitted, although possibly this might be more strenuously urged in a later edition. The treatment of hernia by truss pressure is recommended to be commenced as early as possible; but the author does not allude to the excellent plan of retaining the rupture by means of a skein of wool, which is such an admirable contrivance in dealing with young children. We have no hesitation in heartily commending this little work, believing that it will supply a distinct need and assist in educating public opinion to a more rational treatment on this important subject. It is well and clearly printed and sufficiently illustrated.

Diseases of the Spinal Cord.—By BYROM BRAMWELL. Third Edition. Edinburgh: William F. Clay. 1895. Price 16s.

WE cordially welcome the third edition of Dr. Byrom Bramwell's well-known text-book. In this edition the subject-matter has been thoroughly revised and greatly extended, and the text has been rewritten and rearranged in lecture form.

Among notable alterations we observe that the modest three hundred and thirty pages of the first edition have now become six hundred and sixty; and that the full-page coloured illustrations, which we regarded as a characteristic feature of the original book, have disappeared, although some of them are still retained in the text.

But the chief alteration, which we mostly regret, lies in the removal from the beginning of the book of those valuable chapters on the anatomy, physiology, and pathology of the "spinal segment," and their insertion, more or less indiscriminately, throughout the volume; while the chapter upon the clinical examination of the spinal cord appears to have been expunged. These chapters have always been

considered by us as most essential in initiating the student into the mysteries of the diseases of the spinal cord, and they formed a worthy stepping-stone to the description of the diseases which followed.

But to look more in detail at the matter itself, we find that this edition has been enriched by chapters upon the progressive muscular dystrophies, syringomyelia, and compression myelitis; and the volume ends with a suggestive chapter upon spinal concussion in its relations to railway injuries.

We need scarcely add that the volume is full of original matter, both from the clinical and the pathological side; the figures, also largely original, are suitably chosen, and have been well reproduced. We consider that this edition is a worthy successor to those which are now out of print; and we recommend it to those practitioners and students who desire to reinforce their knowledge with the most recent views upon neurology.

On the Relation of the Diseases of the Spinal Cord to the Distribution and Lesions of the Spinal Blood-vessels.—By R. T. WILLIAMSON, M.D. London: H. K. Lewis. 1895. Price 2s.

THIS small volume consists of a reprint (with a few additions) of papers which have already been published in the *Medical Chronicle* of 1894 and 1895. The author's object has been to briefly review the literature of the distribution of the spinal blood-vessels and the diseases of the spinal cord, which are essentially of vascular origin, and to bring to bear upon the subject his own valuable observations. Thus, acute anterior poliomyelitis is shown to be a disease of vascular origin in the distribution of the anterior spinal artery. In Friedreich's disease the areas of degeneration correspond to the distribution of the peripheral spinal arteries; and transverse myelitis is shown to be of vascular origin. Evidence is also adduced of the probable primary vascular nature of the chronic progressive degenerations of the spinal cord—*e.g.* chronic anterior poliomyelitis, postero-lateral sclerosis, disseminated sclerosis, and possibly also of tabes dorsalis.

In this view, the chronic progressive changes met with throughout the bulbo-spinal centres are brought into close etiological relation with those of sudden origin—a view which we have for some time regarded as the most probable. This theory also brings into the same category—*viz.* of vascular nature—most of the affections of the brain and the spinal cord—a belief for which Dr. Bastian has more especially contended.

The book contains references to the chief literature on the subject, and is illustrated by several diagrammatic sketches.

Abstracts from Foreign Journals

MEDICINE.

Neurasthenia and its treatment (*La neurasthénie et son traitement*).—DR. A. SALLARD (*Revue de Thérapeutique*, Feb. 15th and March 1st, 1895).—Written with the object of propagating the general principles in the treatment of neurasthenia, the author commences by referring to the inconstancy and variability of the symptoms. He considers the chief symptoms to be: sensation of weight in the head; constriction at nape of neck; pain in back, with tender points; mental depression; muscular weakness; and dyspepsia. From his experience, he divides cases into five clinical classes—viz., neurasthenia, especially connected with cerebral, spinal, alimentary, cardiac or genital systems. The author then refers to the difficulty in diagnosis, and to the fact that the condition of neurasthenia may pass into other grave diseases. With respect to treatment, the first object is to inspire confidence in the patient. Cure by hypnotic suggestion has been tried, but answers only in a very limited number. The general hygienic conditions are most important; but rules must be always varied for individual cases, for, while exercise usually suits cerebral neurasthenia, rest is found beneficial in the spinal form. Hydrotherapy is thought by the author to be often of value, though some think it may do harm; and, at any rate, it must be used with discretion. Electrotherapeutics are strongly recommended by M. Vigouroux; for this static electricity is employed in various forms. M. Vigouroux has, moreover, found changes in the urine of neurasthenic patients, which he believes to some extent are characteristic. They are: (1) increased acidity (often due to excess of lactic acid); (2) diminution of excremental products (urea, uric and phosphoric acids); (3) increase of incompletely oxidised products (lactic acid, leucomaines, etc.); and these changes influence M. Vigouroux in his selection of suitable diets. For severe cases isolation is necessary. The author also touches on the prophylaxis of neurasthenia, recommending for the children of neurasthenic patients healthy surroundings and careful consideration as to the choice of their profession; he also condemns consanguineous marriages.

Neurasthenia : Its cure by thermotherapy.—G. M. RANSOM, M.D. (*Medical Record*, New York, March 23rd, 1895). —The investigations of Angel, Webber, and others seem to show that an unstable vascular tone, or irregularities in the vaso-motor system, due probably to over-excitation of the central nervous system, and hence extreme irritability of the vascular system, account best for the symptoms of neurasthenia, which are probably due to ischæmia in certain regions and their consequent malnutrition. This probability is converted into a certainty when neurasthenia can be cured through the effects of temperature alterations on the skin equalising the circulation. In the cases related in the original paper the treatment was adapted always to the condition of the pulse and the varying sensibilities of the patient, and, although the temperature was sometimes varied from 8° to 15° F. or more, all shock was avoided. This avoidance of any shock is especially necessary, since, although the neurasthenic says that he “feels fine” after the cold bath, it is really too great a strain upon an impoverished nervous system, and exhausts the nervous energy. In thermal treatment the key to success is remembering that the sense of heat will vary with the individual, and is not even constant with him, and suiting the temperature to his condition at the time. The condition of the circulation is not always a safe guide to the immediate temperature requirements of the organism, though it does influence its reactions. Very irritable nerve-cells may respond to a stimulus, but the energy thus expended may not be compensated for by the increased nutritional activity produced. The peripheral sensory nerves being abnormally irritable alters the reflex intensity of any stimulus applied to them. The production of hyperæmia of the skin by artificial heat or other means causes a sudden afflux of blood to the skin and an increased circulation both in the tissues and nerve-endings, as after exercise; then the brief application to the naked body of a temperature of about 85° F. or less produces a vigorous reaction and exhilaration which may be only temporary and have disappeared before the next time for treatment, leaving the patient quite as much, if not more, exhausted. So important is this consequent exhaustion that it deserves far more attention than medical men at present bestow upon it. The state of sensibility to heat variations is secondary to the organic condition and indicative of its requirements. Facts and experiments abundantly show that each succeeding repetition of a temperature impression on a sensitive nerve-cell tends to alter it and its relations to other cells. A habit of co-ordination can be easily substituted in a simple functional disease. After a proper bath the neuras-

thenic patient will always experience a feeling of relief or of moderate well-being. A single bath produces a transitory feeling of well-being and is obtained without excessive expenditure of nerve energy, and, by being repeated, a new consciousness subordinate to a new organic state is established, and this may be the beginning of a normal physical and mental habit.

The albuminuric retinitis of pregnancy (*Ueber retinitis albuminurica gravidarum*).—DR. P. SILEX (*Berlin. klin. Wochenschr.*, May 6th, 1895).—In a recent paper Dr. Silex discusses the prognosis of this affection. He gives a sketch of the usual appearances met with in ophthalmoscopic examination. Usually the retina is dull and opaque, the papillary margins irregular, and the papillæ themselves frequently swollen. The veins are dilated and tortuous, and the arteries contracted. Along them lie whitish borders, which are readily discernible. Further examination may reveal in the early stage, along the vessels and papillæ, in lines or in greater extent, the central arterial reflex transformed into a strand quite characteristic and difficult to describe, with a golden-yellow shimmer, of varying breadth, but always exceeding in this respect the normal reflex. Further, patches of fatty degeneration may be observed on the retina in the form of white shining spots, which have sometimes a star-like appearance in the macula, and larger, round, and streaky radiating blood-red flakes. Dark and faint light-red areas indicate implication of the pigmentary epithelium. Similar appearances may be met in neuro-retinitis of intracranial origin, and it is likewise difficult to tell, even in the presence of albuminuria, whether it is due to Bright's disease, acute nephritis, or "pregnancy kidney." Perhaps in the latter hæmorrhages are more frequently met with. Clinically the disturbance of sight comes on slowly in course of weeks and months, mostly in primiparæ and in the second half of pregnancy, as the albuminuria—apart from some few cases, where it shows itself in the first few cases—generally occurs at this time. The vision becomes less, without contraction of the field or alteration of the colour sense; sometimes, especially if eclampsia comes on, sight entirely goes, to return gradually if the pregnancy is terminated, or even if it continues. Once the affection occurs, relapses are readily seen in later pregnancies, by which the prognosis each time becomes more grave. Of all the forms of albuminuric retinitis, the best prognosis is that of the form due to the "pregnancy kidney." Vision may return to the normal, but, according to Silex, this is only to be obtained if, on the establishment of the affection,

the pregnancy is terminated either naturally or artificially. The disturbance of vision in this form is caused less through the changes one can discern in the retina than by the complications which set in—*e.g.* atrophy of the optic nerve, of the retina and choroid, and in retinal detachment. Silex believes that even with moderate impairment of sight the inducement of labour should be considered. With regard to prognosis from ophthalmoscopic appearances, those cases which show no alteration in the blood-vessels, and particularly where no change in the vessel reflex exists, are the most favourable. If, on the other hand, the changes in the reflex are distinctly visible, or the vessels show the well-known hyaline transformation in the walls, then atrophy of the retina is to be feared as well as an ascending atrophy of the optic nerve.

The direct effect of bicarbonate of soda on the gastric secretions (*Ueber den directen Einfluss des doppeltkohlensauren Natrons auf die Magensaftsecretion*).—N. REICHMANN (*Therap. Monatshefte*, March, 1895).—The author refers to the antiquity of the treatment of gastric affections by means of alkalies and alkaline waters, though authorities have not been in accord concerning the physiological results produced. Reichmann undertook the determination of these reputed properties, and selected bicarbonate of soda for his experiments. In the first series patients took, on an empty stomach, and for several days during the early morning, alternately distilled water and alkaline solutions. After fifteen to thirty minutes the gastric contents were abstracted; and in the whole of the fifty-seven cases neither weak nor strong doses appeared to produce any effect on the gastric secretions. Secondly, when administered while digestion was in progress a considerable diminution of acidity resulted, the reduction being proportionate to the amount of bicarbonate taken. When taken on an empty stomach daily, and for lengthened periods, no increase of gastric secretion was observable. The second experiment, when similarly extended over four to eight weeks, gave no different result. The outcome of the whole 103 experiments was to show that bicarbonate of soda in no way influences the gastric secretion or secretory power of the stomach, though it is able to neutralise or even render alkaline the contents. Though the author thus claims to be in opposition to the acknowledged teaching of the text-books, he does not wish to condemn alkalies as being useless from the therapeutic point of view. Their power to diminish acidity is of itself valuable; and furthermore, the author acknowledges beneficial effects on the gastric mucous membranes as the result of drinking weak alkaline waters.

Erysipelatous pleuro-pneumonia without external erysipelas—M. PAPILLON (*La Presse Médicale*, Paris, April 27th).—At the autopsy pericarditis with a pale yellow effusion, not depositing fibrin, and containing the streptococcus pyogenes, was found, and in the left lung the following observations were made: On the upper surface there was a small thickened patch, reddish, and sinking in water, no adhesions, and about 250 c.c. of yellow pus, fluid and inodorous, separating readily into two layers, and in the bronchioles of this part a reddish, frothy muco-pus, while the mucosa was of a vivid red colour not found elsewhere. Although sought for during life, neither the pericarditis nor the pleural effusion had been found, perhaps owing to the fact that the affected surface of the lung was too thin to modify sensibly the breath sounds. The physical signs observed during life were identical with those of a pleuro-pulmonary congestion. A bacteriological investigation showed that the pus and the lung affected contained the streptococcus pyogenes, which is identical with that of erysipelas, and the only possible source of contagion was from one which occurred previously in the ward, and to which there was a definite exposure, and so the pleurisy and pulmonary lesion were both erysipelatous. The cardinal symptom wanting was an external erysipelas, which modern workers, especially M. Strauss (*Rev. Mens. de Med. et Chir.*, 1879; *Union Médicale*, October 16th, 1880), do not consider should always be present. This writer lays chief stress upon the insidious onset, rapid extension, the spread of the inflammation to the trachea, and the almost complete absence of fibrin from the pulmonary exudation, and the general differences from true acute pneumonia. In Germany, among others, Friedreich considers erysipelas and *Wanderspneumonie* as arising from a common origin, which latter may be epidemic with erysipelas; it bears a striking resemblance to the *erysipelato-phlegmonous pneumonia* of Trousseau, and the *pneumonia erratica* of Wunderlich; both in Germany and France this doctrine has met with great opposition, and was only confirmed bacteriologically in 1890 by M. Mosny, working under M. Strauss, who had previously demonstrated the special pneumonia streptococcus. Very remarkable is the short period of incubation, at most but twenty-four hours. Two forms of lung mischief are met with: a streptococcus broncho-pneumonia, a secondary focus from the primary infection, and primary pneumonia due to the pneumococcus, with a secondary infection. The former is alone of moment, since the point to be demonstrated is the erysipelatous origin of the purulent pleurisy as shown here. As a secondary infection this has long been known in cases with an external

rash. For the converse, M. Cuffer has published a case in which a rash appeared on the face on the fourth day. Previously the symptoms had been identical with those of the case now described, and which died on the fourth day. Most probably the author thinks, the pleura was primarily invaded; but the patient, debilitated and an alcoholic, sank before the external symptoms could appear, as in the case of M. Potain related by M. Cuffer.

On the pneumococcus infections in the course of erysipelas (*Des Infections pneumococciques dans l'érysipèle*).—M. ROGER (*Revue de Médecine*, April, 1895).—The author shows that many of the inflammatory complications which occur in the course of erysipelas are in reality due to a secondary invasion of the pneumococcus and not to the streptococcus of the erysipelas. In this paper the author chiefly deals with the pulmonary, peritoneal and meningeal complications, and gives clinical and pathological accounts of many cases which he has observed. Of these, most stress is laid on the pneumonic complications; the onset of these is usually insidious, chiefly marked by an increase in severity of the patient's general symptoms, some dyspnoea, profuse sweating, and occasionally purulent expectoration; the course is rapid, either ending in resolution or death, and there seems to be a special tendency for the disease to attack the seemingly young and vigorous. The chief localization is nearly always the base of the right lung, and there physical signs of various intensities can usually be recognised. The onset of the pneumonia does not usually modify the existing temperature to any extent. Pathologically the lesions are found to be those of broncho-pneumonia, the diseased lung is found to be heavy, homogeneous, and dark in colour, sinking in water, and on section exuding a large quantity of dark fluid. The microscopical appearances varied greatly, but in all cases the alveolar walls were infiltrated with leucocytes. Careful bacteriological experiments were made in all the author's cases, and seemed to prove the pneumococcus the chief factor, and the presence of the pneumococcus in all these cases, and the virulence it presented, seemed sufficient reason for rejecting or at least putting in the background the influence of the streptococcus. After giving some account of the history and literature of the subject, the author goes on to say that he believes the essential cause to be the lowering of the patients' resisting powers by the erysipelas, and so allowing the pneumococcus to make its attack felt.

Late development of hereditary syphilis (*De l'hérédosyphilis tardive*).—M. GRANCHER (*Journal de Médecine de*

Paris, April 28th, 1895).—This paper gives a general account of the symptoms of hereditary syphilis, and is illustrated by two cases. The author begins by alluding to the large number of cases which occur, and the social and medical difficulties which so often surround them, but lays great stress on the necessity of making the diagnosis as early as possible, in order to ensure successful treatment. He then points out how our knowledge of this disease has increased of late years owing to such workers as Gubler, Parrot, and Hutchinson. The first-named investigated the liver in hereditary syphilis, while Parrot specially described some deformities of the skull which are found, to one of which he gave the name of the "natiform skull," and as to these bony alterations Fournier added some further knowledge. Among much other work Hutchinson especially described symptoms occurring in connection with the eyes, nose, mouth and ears, which he succeeded in tracing to the hereditary taint. The interstitial keratitis of the eyes evolves slowly, but rarely remains unilateral, and, although tending to disappear, usually leaves marked remains. The teeth are marked by notches, and the aural symptoms may end in complete deafness. The author discusses the relative severity of syphilis at different ages, its great severity in the foetus and the old, and its moderation when acquired by healthy young adults. It has been supposed that the full development of the lymphatic system in young adults mitigates the severity of the disease, while in the very young efficient development has not taken place, and in the old some loss of power had already occurred, so that the disease more easily conquers.

Two cases are quoted. The first is that of a girl of twelve and a half years of age, who when five years old developed interstitial keratitis, which was not then diagnosed as specific; later on nasal symptoms followed, and were further succeeded by many very severe general symptoms before specific treatment was used. This case illustrates the importance of an early diagnosis which, if made, might have averted more serious symptoms. The second case illustrated a difficulty in diagnosis, as the symptoms were few, and chiefly nasal in locality.

The author concludes by referring to the frequency, gravity, and often unfavourable prognosis which must be given in many cases, at the same time stating, however, that in a certain number a brilliant and rapid cure may be obtained.

"Galloping syphilis" (*Sifilide gallopanante*).—CELSE PELIZZARI (*Lo Sperimentale*, April 11th, 1895).—The writer

describes the case of a woman without suspicious history, with whom also there appeared to be no likelihood of infection from the husband. She bore a healthy child, which, however, would not take the breast, and she therefore, in order to rid herself of the milk, suckled several of her neighbours' children, one of which produced an abrasion of the left nipple. When first seen nodules could be felt under the skin, and ulcerations were present on the arms and other parts of the body. The patient's general condition, though two or three months had elapsed since the confinement, was very unsatisfactory, and she had lost considerably in weight. The author employs the term "galloping syphilis" because no eruptions had manifested themselves in the skin, whereas it had the appearance of an affection of several years' standing. When seen at the same time the husband and infant were both found equally affected.

SURGERY.

On the disinfection of septic or infected wounds (*Ueber Desinfection septisch-inficirter Wunden*).—DR. C. SCHIMMELBUSCH, Berlin (*Fortschritte der Medicin*, Jan. 1 and 15, 1895).—In these papers the author once again details the experiments which he has already recorded elsewhere, by means of which he has endeavoured to show that the attempt to disinfect wounds which have already become infected or septic is practically useless. The practice which is so common in this country of irrigating and washing out wounds with all sorts of antiseptics in the hope of rendering them sterile is based rather on supposition than on experimental facts, although it is easy enough to ascertain whether there is any solid ground for expecting a successful issue. The well-known resisting powers of the tubercle bacillus to a 2 per cent. carbolic or a 1 per cent. sublimate solution, and the fact that tetanus and anthrax bacilli can be unharmed for weeks in such solutions, prove that such agents are totally incapable of dealing with them. Moreover, the difficulty of reaching the organisms when once they have found their way into the irregularities of the wound much enhances the difficulties of dealing with them efficiently. The good results that have been obtained by the use of antiseptics in surgery are not to be considered as due only to such reagents; many other factors come into play, whilst equally satisfactory statistics can be produced by surgeons who merely employ aseptic proceedings without irrigation.

The first series of experiments were conducted by infecting wounds in the tails of mice with anthrax material, containing

either the bacilli alone or spore-bearing bacilli, splenic pulp or blood being used in the former case, and in the latter organisms grown in bouillon or on an agar culture. Emphasis is laid on the importance of always utilising the same type of mice, since some varieties are naturally insusceptible to the disease, and also a virus of definite strength. The animals must also be prevented from irritating or licking the wounds, and for this purpose Schimmelbusch employs plated cages, through holes in which the tails can be passed and tied secured to fixed hooks. A small incision is then made in the tail near the root, and the anthrax organisms applied with an infected platinum wire. This was followed immediately by attempts to disinfect the parts, both by irrigation with various strengths of antiseptic solutions, by rubbing in concentrated solutions—such as pure carbolic acid, fuming nitric acid, etc.—or even by applying the actual cautery. In all the cases except two the results were alike—viz. that no effect was produced in altering the fatal issue of the disease, and, indeed, in many instances it seemed to run a more rapid course. In the two exceptions noted death followed later on from the activity of some other organisms derived from scabs on the backs of the animals, whose presence has been proved independently to have an inhibitory action on the development of anthrax bacilli.

A second series of experiments was conducted on rabbits with a special form of streptococcus, which developed in the blood and naturally causes death in two or three days without leading to any local phenomena. The infection is made in the ear, and no special precautions are called for, since rabbits are not prone to irritate their wounds. Various forms of disinfection and irrigation were employed, but death invariably resulted. Such an effect—following the application of drugs which, when used apart from the body, readily destroy the organisms in a few minutes—must be looked on as evidence either that the living tissues exercise a paralysing influence on the antiseptic, or that the action of the reagent is so superficial as never to reach the deeper tissues, or, more possibly, that the organisms are absorbed so rapidly into the depths of the wound as to be beyond the reach of the antiseptic before it can be applied to it. The latter explanation has been already advanced and proved by experiments years ago by various observers, and the author has repeated their methods and gives his results. He again employed a series of white mice, infecting small wounds in their tails with anthrax, and then, after variable times, amputated the organ. He found that it was only possible to save them if the tail was removed within ten minutes of the infection.

The conclusion drawn from these experiments is that in those severe forms of wound-infection liable to be followed by general development of organisms in the blood-stream it is often superfluous to undertake measures directed to the local removal of the disease, since such organisms are certain to have found their way into the blood long before any treatment is feasible, although the difficulty of determining whether or not the process is merely a local one will lead the surgeon to consider carefully the question of incisions or amputation.

On bacterial absorption from recent wounds (*Ueber Bacterienresorption frischer Wunden*).—DR. C. SCHIMMELBUSCH and DR. G. RICKER (*Fortschritte der Medicin*, April 1st, 15th, and 29th, 1895).—In these papers the authors recount their researches as to the rapidity of absorption of bacteria from recent wounds. It was pointed out by Nissen in 1891 that the bacilli of anthrax could be demonstrated in the neighbouring lymphatic glands a very short time after the infection of a wound in rabbits and guinea-pigs. Thus it was found that if a wound was made at the end of the foot, in three to four hours afterwards bacilli could be found in the inguinal glands. The researches undertaken by the authors were directed towards proving at what period of time organisms could be found in the blood-stream and various viscera. It was considered inadvisable to trust alone to microscopic examinations, since the number of micro-organisms to be looked for would in all probability be so small as to escape detection; hence the method employed was as follows:—Wounds were made near the tails of white mice as described in the former paper, and within variable times of the infection the animals were killed and their organs removed with sterilised instruments and chopped up, small portions of them being placed in nutrient materials; any organisms present naturally underwent development, and thus a measure of the amount of absorption of the microbes was arrived at. Naturally the greatest care has to be taken that the value of the experiments is not depreciated by contamination from the skin of the animals; even then, however, the characters of the anthrax bacilli are so marked that no difficulty is experienced in detecting their presence in the cultures obtained.

In the first series of experiments ten white mice were employed, a spore-containing anthrax culture being inoculated in a wound involving the skin, deep fascia and muscles at the root of the tail. In all but one case organisms were found in the viscera, especially the lungs and liver, after an interval of

half an hour; and in one case they were even found in the lungs, liver and kidneys within that time. Four rabbits were next treated in a similar way by infecting a deep muscular wound; they were killed at varying intervals up to three and a half hours, but in none of them were organisms found in the viscera.

In order to ascertain whether the laying bare of the muscles had any influence on the absorption of the organisms, a further set of experiments was undertaken in which the subcutaneous tissues were alone infected. In ten cases a subcutaneous wound was made and a drop of a spore-bearing anthrax culture applied without touching the skin, the animal being subsequently killed and the organs examined as before; the viscera contained no organisms except after an interval of four hours. When, however, a subcutaneous injection of the spores was undertaken, two hours sufficed for the bacteria to be disseminated through the system.

Very similar results were gained from the use of anthrax bacilli which contained no spores. Six mice out of seven which were experimented with showed signs of general infection when killed, at intervals varying from half an hour to four hours.

A further series of observations were made by implanting portions of the internal organs of a mouse which had been previously infected with anthrax into the bodies of other mice, varying intervals being allowed to elapse between the infection and the implantation. When only one hour or an hour and a half intervened, no result followed except in a few cases where suppurative organisms had also found an entrance; but after two hours and three-quarters, three or five hours, the animals always contained anthrax bacilli, although the clinical course of the case was considerably modified and the symptoms diminished in severity, owing presumably to the bacilli being enclosed in the ingrafted tissue, and having to find their way gradually into the surrounding parts. Considerable local oedema was produced, together with patches of necrosis in which multitudes of anthrax bacilli were observed. Moreover, the presence of other organisms in several of the cases probably exercised a considerable influence on the results.

Finally, in order to ascertain whether the nature or size of the organism had any influence on the rapidity of absorption, experiments were made with a considerable number of different forms, including the *staphylococcus pyogenes aureus*, *micrococcus tetragenes*, *mic. prodigiosus*, *bac. pyocyaneus*, *bac. mycoides*, etc., and in all very similar results were obtained—viz., a very rapid absorption of the microbes, which could be

demonstrated in the internal organs after a very short interval had elapsed.

Bacteria are thus proved to follow the course which, it has long been known, is taken by bodies such as Indian-ink or globules of fat. Lymphatic absorption of bacteria has long been recognised; now we have it authoritatively shown that they are also disseminated actively along the blood-vessels, even more quickly from a fresh bleeding wound than from one in which there has been time for reparative changes to take place. Such a fact in no way contraindicates local treatment, since it is pointed out that if the local focus of disease can be eliminated, the natural germicidal powers are quite capable of dealing with those organisms which are not virulent, and even with some of the more active forms, provided they are not present in the blood-stream in too great numbers.

On the aseptic treatment of suppuration (*Ueber aseptische Behandlung von Eiterungen*).—DR. H. ZEIDLER, St. Petersburg (*Centralblatt für Chirurgie*, April 6th, 1895).—The question as to the desirability of attempting to disinfect wounds which are suppurating, or foci of localised or diffuse suppurative cellulitis, is here dealt with, the author arguing strongly in favour of asepsis rather than of antiseptics. His practice for the last decade or more has been influenced by the well-known facts as to the difficulty or impossibility of destroying organisms when once they have gained access to the interior of wounds, which facts have been especially emphasised of late by Schimmelbusch. In 1889 he recorded about 100 cases treated without antiseptics in the most satisfactory manner, and his observations have now swelled up to many hundreds. His method of treatment is as follows:—The field of operation is prepared as usual; the wound is thoroughly opened up and all tissues infiltrated with pus carefully dissected out. It is then wiped out with sterilised gauze, and if necessary irrigated with a 6 per cent. saline solution. It is lightly but carefully packed with sterilised gauze, over which is placed another layer of gauze covered by wool and firmly bandaged on. Zeidler is greatly in favour of dry rather than of wet dressings, believing that thereby secretion is diminished and the formation of healthy granulations assisted. Neither iodoform nor any of the usual antiseptic reagents appear to his mind to have any salutary influence on the course of the case, and, indeed, he considers that they are really harmful. The dressing is often left on for eight days without being changed, and he has never noticed any objectionable smell arising from decomposition of the secretion. Should the effusion be great and soak through the

outer layers, this may be removed and replaced without touching the deeper parts. Great importance is laid on the use of a thoroughly absorbent material for the dressing.

GYNECOLOGY.

Some cases of hysteropexy (*Remarques sur quelques cas d'hystéropexie d'après les observations recueillies à la clinique chirurgicale de Lausanne*).—DR. CASIMIR POLTOWICZ (*Revue Médicale de la Suisse Romande*, Jan. 20th and Mar. 20th, 1895).

—The writer gives the results of twenty cases of this operation for uterine prolapse and retroversion which came under the care of M. Roux, two years at least having elapsed after the treatment was resorted to. After touching upon the etiology of this condition (prolapse and retroversion), in which he considers a sudden effort, pregnancy or repeated pregnancies, the corset, and atonic diathesis as individual causes, he proceeds to describe the operative treatment.

He first gives a brief historical review of the procedure, especially quoting Pozzi in condemning *indirect* uterine fixation; he then shows the danger of hysteropexy *without* laparotomy and opening of the peritoneal cavity by relating a case under the care of M. Roux. This operator, wishing to perform the operation without cutting into the peritoneum, fortunately changed his mind at the last moment and resorted to the intra-peritoneal method. He found between the abdominal wall and the uterus a knuckle of small intestine which would inevitably have been transfixed during any extra-peritoneal procedure. The technique adopted at Lausanne by Roux is that of Terrier and Czerny slightly modified; the sutures are introduced after Pozzi's method, and are preferably of silk. From the writings of other authorities Pozzi concludes that the results of hysteropexy are very satisfactory, if not brilliant. In all cases observed, the more serious symptoms disappeared. The fear that vesical troubles are produced by pressure on the bladder of the sutured uterus is unfounded. In 389 cases collected by Chrostowski (Slavianski's Clinic, St. Petersburg), only nine showed any signs of bladder disturbance after operation. Dumoret made experiments on the cadaver by distending the bladder after a preliminary hysteropexy, and found no obstacle to the process; at the same time the shape assumed by the organ was that of a heart, although the capacity was in no way diminished. With regard to pregnancy and labour, Mouratow says that of seven women upon whom he operated only one had a normal pregnancy; the rest remained sterile. Rivière has collected from different authorities thirteen cases of

pregnancy after hysteropexy, with eight normal and three premature labours with two abortions; after Alexander's operation in fourteen cases, thirteen labours terminated naturally, and one by abortion. Säger is of opinion that the number of fecundations after hysteropexy is very considerable. Poltowicz proves the firm nature of the uterine adhesions by a case in which, owing to a vaginal extirpation becoming necessary subsequent to the hysteropexy, no efforts, however violent, could tear away the uterus from its position.

He then relates twenty cases in detail, and gives the following results:—Eight failed to report themselves as requested; one submitted to Cæsarean section later, owing to extreme distension of the anterior abdominal wall during pregnancy. Among the remaining eleven cases none suffered from abortion; two pregnancies went to term, and were terminated by natural labours. One of these was carefully examined *post partum*, and the uterus was found firmly adherent, and in a state of slight anteversion. Five patients were satisfied with their condition. Poltowicz concludes that, whether from a curative or an obstetrical point of view, the series may be looked upon with satisfaction.

Practical Notes.

"It should be mentioned, in the interests of antiseptic purity and suffering humanity, that a good stout toothbrush, plenty of water, and some antiseptic dentifrice, applied morning and night, afford a greater safeguard against many diseases than many people are aware."—SIMS WOODHEAD.

A MOUTH-WASH :—

R Acid. Salicylic. grs. xv.
 Chloroform. ℥iij.
 Tinct. Benzoin. ℥iij.
 Tinct. Myrrhæ ℥iij.
 Alcohol. ℥iv.

Ft. Lotio. S. A few drops in a wineglass of water.

A TOOTH-POWDER :—

R Magnes. Carb. Pond. ℥i.
 Pulv. Cretæ Prepar. ℥j.
 Potass. Chlorat. ℥ij.
 Ess. Anisi gutt. x.

Ft. Pulv.

IS THE BABY TONGUE-TIED?—Dr. Chervin (Paris, 1894), the director of the Institute for the Treatment of Stammerers at Paris, has made an interesting study of the surgical aspect of this subject. Much performed in certain regions of France, and formerly often done by some of the greatest surgeons, he thinks that its use has a very limited application; for example, in those rare cases where the tongue is bound down to the floor of the mouth by an inferior ankyloglossia so that the tongue is immobilised. In certain cases where the frænum is too long, and by extending even to the tip of the tongue interferes with nursing, then not a mere incision, but an excision is required. This is exceptionally necessary, and, though in itself insignificant, it may present serious danger in a little child. It is wrong to think that if an infant nurses badly its frænum must be cut. A little exercise upon the end of one's finger will correct this fault, and operative interference will be unrequired. Cutting the frænum is absolutely useless

in correcting defective pronunciation, for this is only to be remedied by a methodical education of the voice by natural and rational exercises.

In the two forms of genital herpes Besnier orders the following treatment:—

In the dry form:

R Unguent. Plumbi ℥j.

Lanolini ℥j.

Adipis ℥ss.

M

Or else:

R Unguent. Hydrargyr. ℥j

Lanolini ℥j.

Olei Olivæ ℥ss.

In the moist form the parts are washed with boracic or weak carbolic lotions, and then dusted with:

R Pulv. Amyli ℥j.

Bismuth. Subnit. grs. v

Acid. Tannic. grs. v.

M. Ft. Pulv.

It is not generally realised that weak solutions of cocaine will produce as successful a local anæsthesia when used hypodermically as the stronger ones which are not uncommonly prescribed. The feebler solution is not only an economy, but, what is far more important, it avoids the very dangerous risks of intoxication produced by 5 or 10 per cent. solutions. For many years Prof. Roux, of Lausanne, has used only a 1 per cent. solution, which he has found sufficient for such operations as herniotomies and removal of goitres without any general anæsthetic.

SCHLEICH has used an even weaker solution, and found that a .02 per cent. solution produced anæsthesia after injection. A formula which allows of a cocaine solution being kept ready for use without fear of its deterioration is:

R Cocain. Hydrochlor. grs. iij.

Morphinæ Hydrochlor. gr. ¼.

Sodii Chlorid. grs. iij.

Acid. Carbolic. (5 per cent. sol.) ℥ij.

Aq. Destill. ad ℥iij.

This is for use on painful areas; for operations on healthy parts the cocaine is reduced to grs. jss.

THE "pick-me-ups" of the druggist are commonly made up somewhat as follows:—

R Potass. Bromid. grs. xv.
 Spirit. Chlorof. ℥xx.
 Tinct. Gentian. Co. ℥x.
 Tinct. Card. Co. ℥x.
 Spirit. Amm. Aromat. ℥x.
 Elixir Simpl. ʒss.
 Aq. Menth. Pip. ad ʒj.

This is the kind of draught dispensed over the counter for the "head" produced by deficient exercise, or by over-eating or drinking.

FOR urticaria Brocq recommends the following pomade:—

R Acid. Carbolic. grs. xv.
 Ess. Menth. Pip. ℥xv.
 Zinci Oxid. ʒij.
 Lanolin. ʒss.
 Vaseline. ad ʒij.

Ft. Ung.

The application of the ointment can be preceded by antipruriginous lotions of chloral or eau-de-Cologne.

In addition he prescribes internally two to ten of the following pills per day:—

R Quiniæ Hydrochlor. gr. jss.
 Ergotin. gr. jss.
 Extract. Belladonn. gr. ¼.

M. ft. Pil. j.

DR. T. WILL SUMMERS writes in the *Medical Record* of a new and painless method of treating varicose ulcers. He first applies thoroughly a solution of bicarbonate of soda. After this has been done, a solution of methyl violet is applied, and it is allowed to dry. The methyl solution must be thoroughly put on, so that the base and edges are touched by it. When dry, a piece of absorbent cotton is placed on the ulcer, or, if more exist, on each one, and a Martin's rubber bandage over all. This procedure is to be repeated every morning. In the way of medication, potassium iodide in 10- to 15-grain doses three times a day should be administered. The author speaks of a case which recovered in six weeks, and as the bandage and internal medicine has been used with no avail, he concludes that the application of the methyl violet should be credited with some portion of the praise due for the rapid recovery.

TRINITRINE, or nitroglycerine, has been recommended as an antineuralgic, especially in cases of inveterate sciatica. It can best be given in a 1 per cent. alcoholic solution, of which the dose is about 3 drops per day, or the following formula may be employed :—

R Sol. Trinitrinæ (1 per cent.) ℥lxxv.
Tinct. Capsici ʒiss.
Aq. Menth. Pip. ad ʒss.

S.—Five to ten drops in water three times a day.

THE following is a favourite mixture for “sluggish liver and indigestion” :—

R Acid. Nitro-hydrochlor. dil. ℥x.
Tinct. Podophyllin ℥x.
Succ. Taraxaci ʒj.
Tinct. Nucis Vom. ℥x.
Syrup Zingiberis ʒss.
Aq. Menth. Pip. ad ʒss.

S.—In water three times a day.

M. H. FOLET, of Lille, suggests that perhaps the air coming in contact with the peritoneal surface of the intestines has something to do with the beneficial result of operation on cases of tuberculous peritonitis. In one case, after evacuating six litres of serous fluid, he simply injected into the peritoneum three litres of air. The fluid did not reaccumulate, and the patient has remained well for the past eight months.

In the flatulent colic of infants—as, of course, a symptomatic treatment—the following gives excellent results :—

R Extracti Zingiberis Fluid. ʒiss.
Tinct. Asafœtidæ ʒiii.
Aq. Menth. Pip.
Aq. Cinnamomi āā ʒj
Syrup. Simplicis ʒiv.

M. Sig. One teaspoonful in water three times a day before meals.

DR. KRAFT, of Utrecht, has a very ingenious and at the same time efficacious method of testing whether in a given case of gonorrhœa an actual cure has been obtained.

As is known, nothing is more difficult than to be able to say whether a gonorrhœa which has ceased to discharge has been really and definitively cured. The cessation of discharge, the absence of gleet, and the agglutination of the lips of the meatus are easily absent while the disease is present, though latent, and still virulent enough to be transmitted by coitus. In such cases the absence of these signs may be the means of placing the physician in an embarrassing position. For example, a patient who has had gonorrhœa and is about to marry asks his physician whether he is completely freed from his disease and without danger of contaminating his wife. In such cases the writer instructs the patient to drink a quart and a half of beer, after which he injects into the patient's urethra a 2 per cent. solution of sublimate. If he is actually cured, no reaction follows; if the contrary is true, a discharge will be set up, which sometimes does not appear for forty-eight hours.

DR. H. M. CHRISTIAN (*Therapeutic Gazette*) claims that irrigation of the urethra with potassium permanganate, 1 to 4,000, doubled in strength the second week, is the best remedy for simple non-infectious urethritis. The irrigations are made daily with about one quart of a warm—not hot—solution, the patient standing and the reservoir being at a height of six feet. A cure can be effected in from ten to twelve days. This cannot be solely relied on for a specific urethritis, but to a certain point he considers irrigation the proper treatment—relieving *ardor urinæ* and chordee promptly, and largely preventing such complications as total urethritis and epididymitis.

IN the symptomatic treatment of dysmenorrhœa nothing is more important than complete rest in bed during the whole menstrual period. When the pain is severe the following may be prescribed :—

R Potassii Bromidi gr. x.
 Antipirinae gr. x.
 Extr. Viburni Prunifolii Liquid. ʒss.
 Spirit. Vini Gallici ʒss.
 Syrup. Aurantii ʒss.
 Aq. ad ʒss.

Ft. Dosis. S. Two to four tablespoonfuls during the day.

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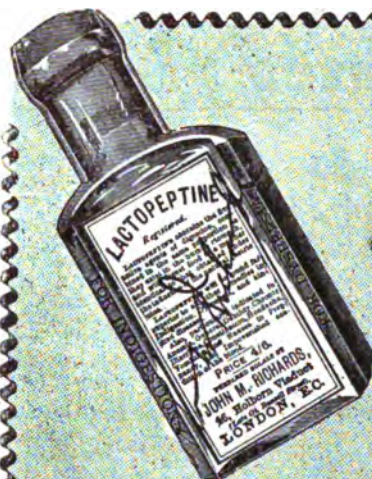
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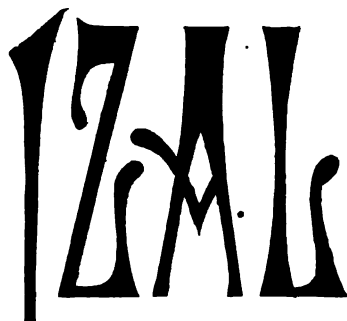
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